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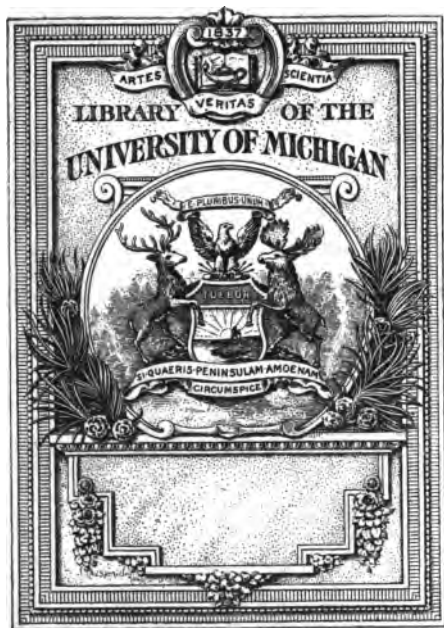
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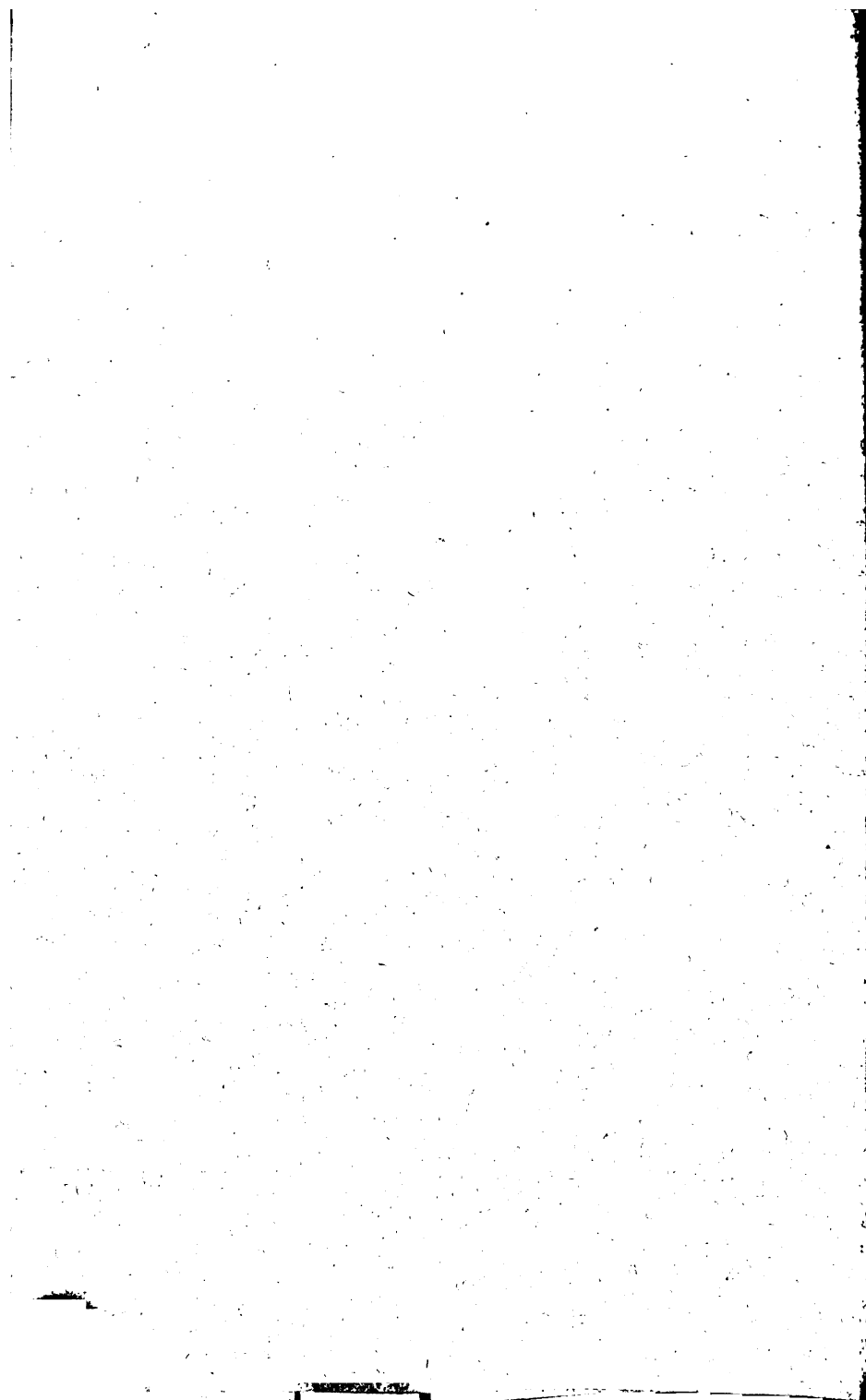
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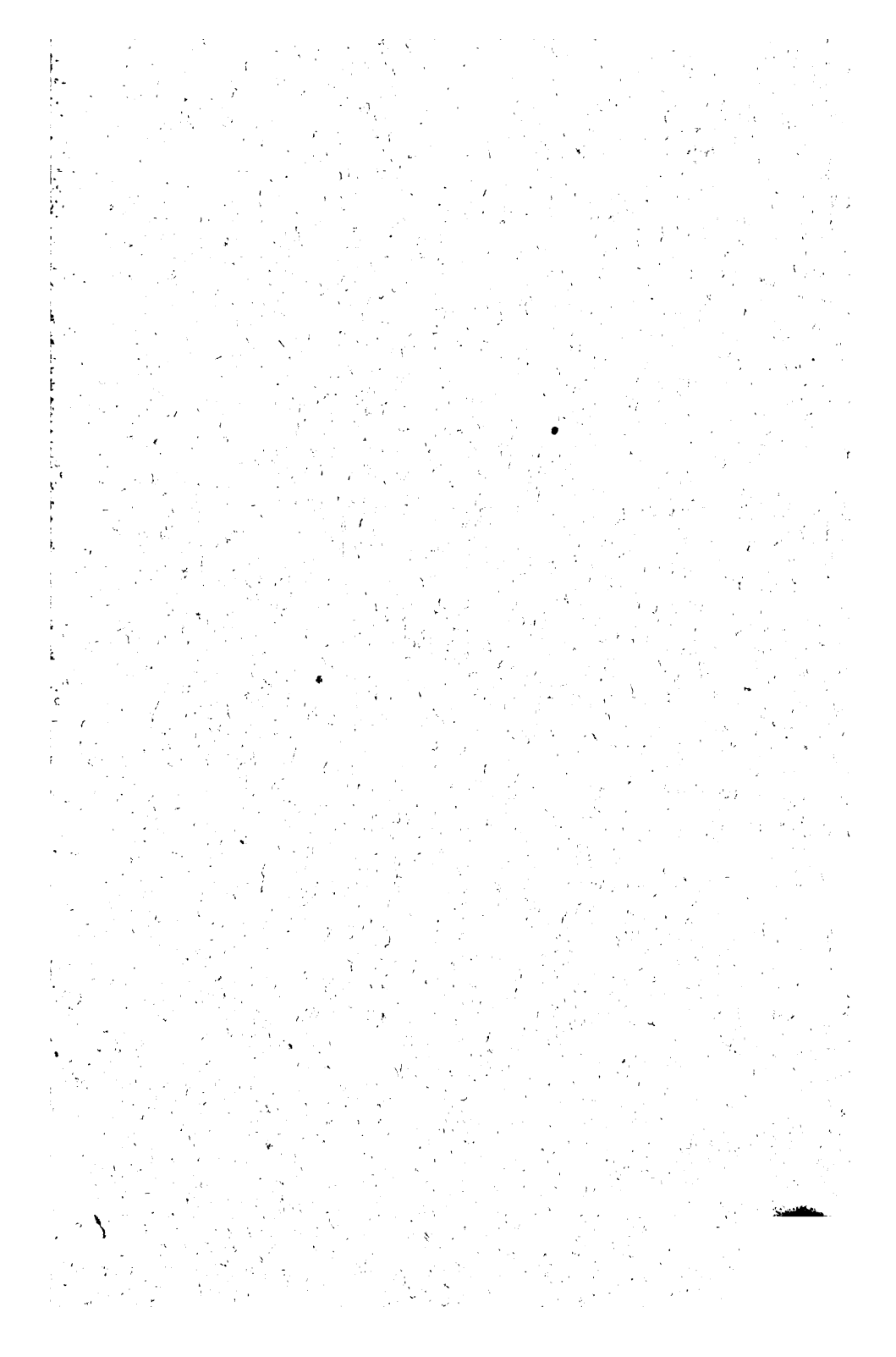
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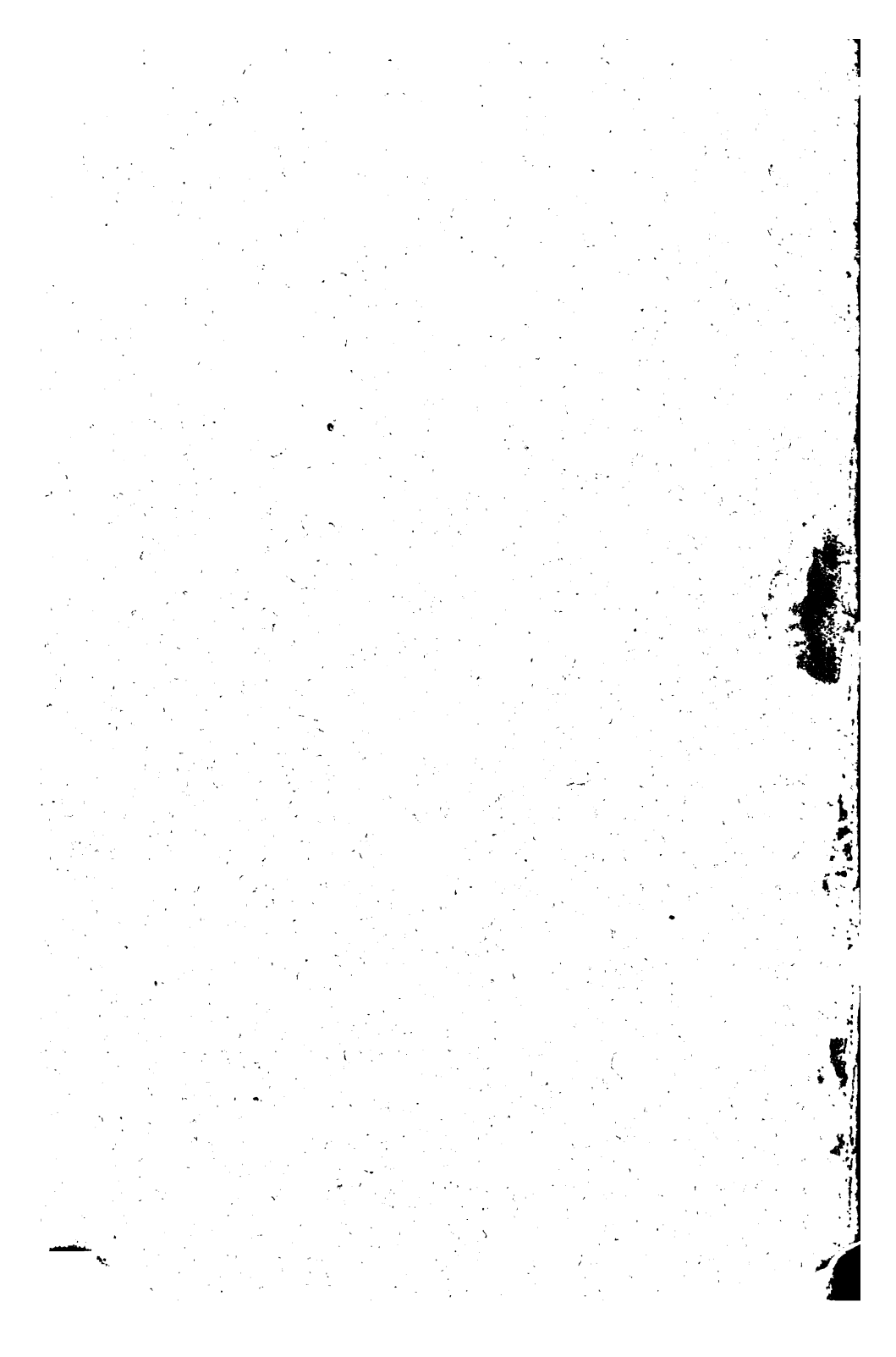


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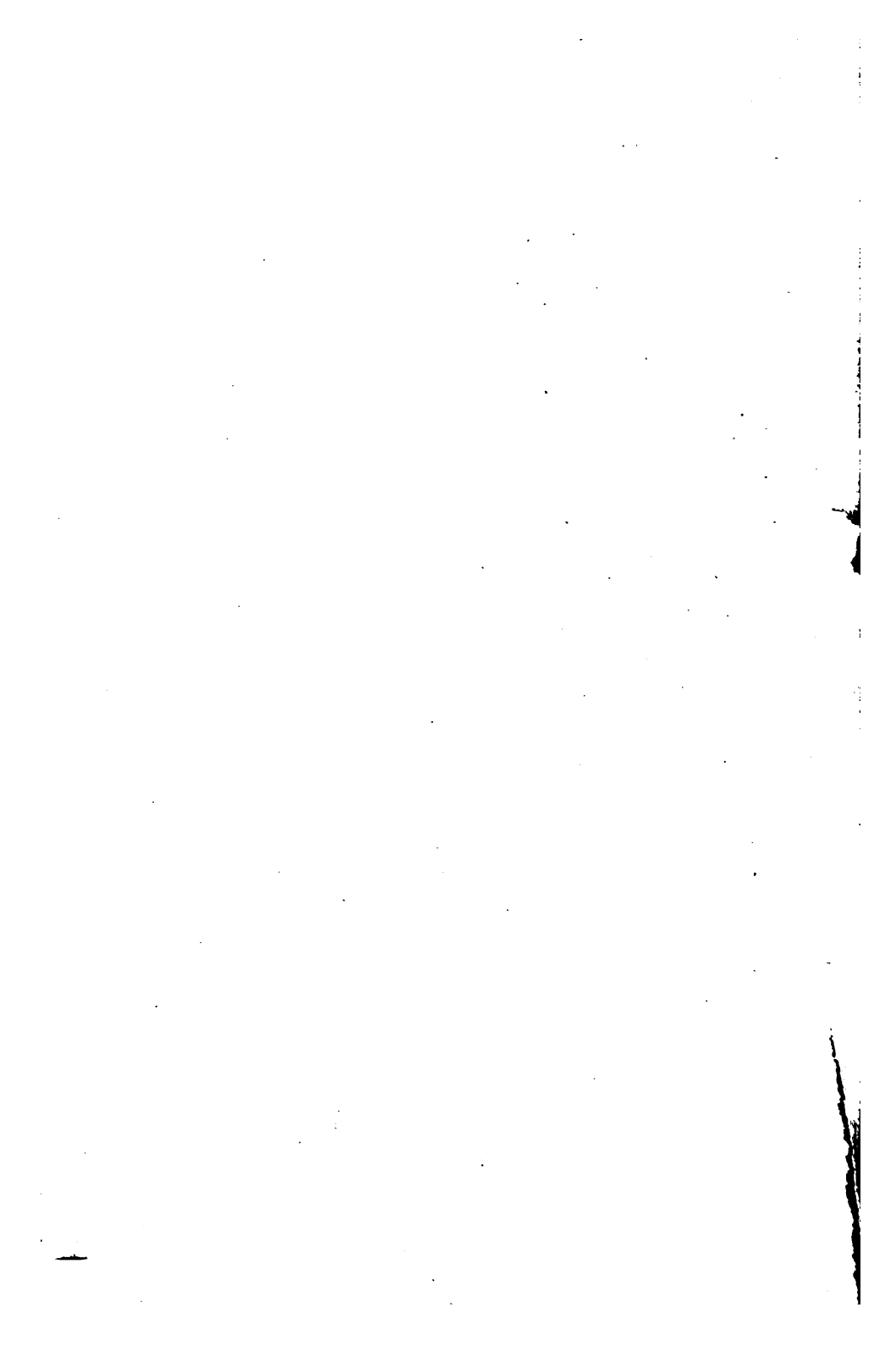
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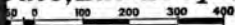
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- A. S. ....ART SCHOOL
- B. C. ....BATTELL CHAPEL
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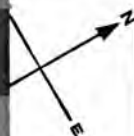
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OF

# YALE UNIVERSITY

1897

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1890





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## ABBREVIATIONS

A., Absent on leave; B., Sheffield Biological Laboratory; C., Old Chapel; D., Durfee Hall; E., East Divinity Hall; F., Farnam Hall; L., Lawrance Hall; LYC., Lyceum; N., North College; N. M., North Middle College; N. S. H., North Sheffield Hall; P., Peabody Museum; S., South College; S. H., Sheffield Hall; S. M., South Middle College; TR., Treasury Building; W., West Divinity Hall.

Upon the College Square, the rooms numbered from 1 to 32 are in South College; from 33 to 64 in South Middle College; from 65 to 96 in North Middle College; from 97 to 128 in North College; from 129 to 177 in Farnam Hall; from 178 to 185 in the Lyceum; from 186 to 200 in the Old Chapel; from 201 to 240 in Durfee Hall; from 241 to 282 in Lawrance Hall.

The rooms in East Divinity Hall are numbered from 1 to 54; in West Divinity Hall from 55 to 124.

The rooms in Sheffield Hall are numbered from 1 to 21; in North Sheffield Hall from 25 to 58; in the Sheffield Biological Laboratory from 60 to 79.

---

## OFFICE HOURS

THE PRESIDENT is in his room, No. 7 Treasury Building, from 10.30 A. M. to 12 M., every week-day during term-time.

THE TREASURER'S OFFICE, No. 5 Treasury Building, is open from 9 A. M. to 3 P. M., every week-day during term-time, and from 10 A. M. to 1 P. M. during vacations.

THE SECRETARY'S office is in the Library, which is open every week-day during term-time, from 9.30 A. M. to 5 P. M. (or 4.30 P. M. during the winter months).

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A list of the Graduates of the University (in Latin) is published triennially,—the last edition in 1889; a copy will be supplied to any graduate desiring it, on receipt of the postage (eight cents); copies may be obtained by other persons at cost price, fifty cents, with postage.

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## AUDITOR

WILBUR F. DAY

---

\* Deceased June 17, 1890.

# CALENDAR

---

## 1890

25 Sept.	Thursday	FIRST TERM begins.
1 Oct.	Wednesday	School of the Fine Arts, term begins.
2 Oct.	Thursday	First Term, Medical School, begins.
17 Dec.	Wednesday	FIRST TERM ends.

## Winter Vacation.

## 1891

6 Jan.	Tuesday	SECOND COLLEGE TERM begins.
8 Jan.	Thursday	Second Term, Medical School, begins.
8 Jan.	Thursday	Winter Term, Law School, begins.
19 March	Thursday	Junior Exhibition.
25 March	Wednesday	SPRING RECESS (in College) begins
1 April	Wednesday	SPRING RECESS ends.
9 April	Thursday	Spring Term, Law School, begins.
1 May	Friday	John A. Porter Prize Essays due.
6 May	Wednesday	Berkeley Scholarship Examination.
18 May	Monday	Woolsey Scholarship Examination begins.
18 May	Monday	Winthrop Prize Examination.
20 May	Wednesday	Anniversary of the Divinity School.
30 May	Saturday	School of the Fine Arts, term ends.
20 June	Saturday	DeForest Prize Speaking.
21 June	Sunday	Baccalaureate Sermon.
22 June	Monday	Presentation for Academical Degrees.
22 June	Monday	Anniversary of the Sheffield Scientific School.
23 June	Tuesday	Anniversary Meeting of the Alumni.
23 June	Tuesday	Anniversary of the Medical School.
23 June	Tuesday	Anniversary of the Law School.
24 June	Wednesday	COMMENCEMENT.
25 June	Thursday	Examinations for admission begin.

## Summer Vacation.

22 Sept.	Tuesday	Examinations for admission begin.
24 Sept.	Thursday	FIRST TERM begins.
1 Oct.	Thursday	School of the Fine Arts, term begins.
1 Oct.	Thursday	First Term, Medical School, begins.
16 Dec.	Wednesday	FIRST TERM ends.

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- ROBERT F. HARPER, PH.D.  
*Instructor in the Semitic Languages* 102 N.
- FRANK K. SANDERS, PH.D.  
*Assistant in the Semitic Languages* 29 Beers st.
- WILLIAM E. LOCKWOOD, M.D.  
*Demonstrator of Physiology* 32 Pearl st.
- CLARK E. CRANDALL, M.A.  
*Assistant in the Semitic Languages* 109 Elm st.
- HENRY L. SWAIN, M.D.  
*Lecturer on Diseases of the Throat and Ear* 200 York st.
- OLIVER T. OSBORNE, M.D.  
*Assistant in the Medical Clinic* 252 York st.
- THOMAS G. LEE, M.D.  
*Lecturer on Histology and Bacteriology* 373 Crown st.
- HERBERT DEW. CARRINGTON, PH.B.  
*Instructor in German* (16 S. H.) 18 College st.
- OLIVER C. FARRINGTON, M.S.  
*Assistant in Biology* (78 B.) 71 B.

OLAUS DAHL, B.A., B.D.		
<i>Instructor in Swedish and Danish</i>		1010 Chapel st.
JOHN C. SCHWAB, PH.D.		
<i>Lecturer on Political Science</i>		5 s.
FREDERICK L. CHASE, B.A.		
<i>Assistant in the Observatory</i>		Observatory
JOHN WHITMORE, B.A.		
<i>Assistant in Physics in the Sloane Laboratory</i>		147 Bradley st.
ERWIN S. SPERRY, PH.B.		
<i>Assistant in Analytical Chemistry</i>	(s. h.)	Ansonia
HERBERT A. AIKINS, B.A.		
<i>Lecturer on the History of Philosophy</i>		44 High st.
PERCY F. SMITH, PH.B.		
<i>Instructor in Mathematics</i>	(46 N. S. H.)	13 Home pl.
FREDERIC W. MAR, B.A.		
<i>Assistant in the Kent Chemical Laboratory</i>		West Haven
ERNEST ELLSWORTH SMITH, PH.B.		
<i>Assistant in Physiological Chemistry</i>	(63 B.)	1018 Chapel st.
HERBERT C. TOLMAN, PH.D.		
<i>Assistant in the Indo-European Languages</i>		1010 Chapel st.
EDWIN H. LOCKWOOD, PH.B.		
<i>Instructor in Drawing and Mechanism</i>		57 N. S. H.
PHILIP E. BROWNING, B.A.		
<i>Assistant in the Kent Chemical Laboratory</i>		106 Howe st.
PORTER B. GODARD, B.A.		
<i>Assistant Librarian of the Law School</i>		19 Court House
HORACE F. WALKER, B.A.		
<i>Instructor in French</i>		77 W.
ARTHUR C. ALEXANDER, PH.B.		
<i>Assistant in Physics</i>		57 N. S. H.
RALPH R. CLAPP, PH.B.		
<i>Assistant in Analytical Chemistry</i>		88 Wall st.
HARVEY M. LAWSON, PH.B.		
<i>Assistant in Chemistry</i>		56 N. S. H.
ROBERT E. PECK, PH.B.		
<i>Assistant in Chemistry</i>	(Medical School)	486 Elm st.
FRANK S. MEARA, B.A.		
<i>Proctor</i>		70 N. M.

## GRADUATE FELLOWS AND SCHOLARS

---

ALBERT W. HITCHCOCK, M.A., B.D., <i>Hooker Fellow</i>	108 w.
JOHN WHITMORE, B.A., <i>John Sloane Fellow</i>	147 Bradley st.
GERALD H. BEARD, B.A., B.D., <i>Fellow in the Divinity School</i>	29 E.
CARLETON L. BROWNSON, B.A., <i>Soldiers' Memorial Fellow</i>	Athens, Greece
FREDERIC W. MAR, B.A., <i>Silliman Fellow</i>	West Haven
HERBERT C. TOLMAN, PH.D., <i>Berkeley Scholar, and Larned Scholar</i>	1010 Chapel st.
LESTER BRADNER, JR., B.A., <i>Clark Scholar</i>	16 York sq.
CHARLES F. KENT, B.A., <i>Foote Scholar</i>	107 York st.
PHILIP P. WELLS, B.A., <i>Macy Scholar</i>	61 w.
HERBERT A. SMITH, B.A., <i>Douglas Fellow</i>	77 w.
CHARLES B. BLISS, B.A., <i>Larned Scholar, and Berkeley Scholar</i>	64 Howe st.
ARTHUR W. COLTON, B.A., <i>Foote Scholar</i>	297 George st.
CHARLES H. HAMILL, B.A., <i>Larned and Clark Scholar</i>	83 Grove st.
CHARLES F. SMALL, B.A., <i>Clark Scholar</i>	1161 Chapel st.

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## OTHER OFFICERS

LOUIS STADTMÜLLER, PH.B., <i>Clerk in the Sheffield Scientific School</i>	(3 S. H.) 77 Whitney av.
FRANK E. HOTCHKISS, <i>Superintendent of Grounds and Buildings</i>	90 High st.
WILLABE HASKELL, PH.D., <i>Superintendent of the Reading Room</i>	(Reading Room) 96 Dwight st.
ANNIE E. HUTCHINS, <i>Assistant in the Library</i>	(Library) 29 Home pl.
J. PRESTON STRONG, <i>Clerk in the Treasurer's Office</i>	(5 TR.) 506 Howard av.
GEORGE H. BUTLER, <i>Clerk in the Treasurer's Office</i>	(5 TR.) 98 Howe st.
GERALD H. BEARD, B.A., <i>Clerk in the College Dean's Office</i>	136 F.
CLIFFORD W. BARNES, B.A., <i>Superintendent of Dwight Hall</i>	Dwight Hall
HENRY R. GRUENER, <i>Assistant in the Library</i>	(Library) 39 Whiting st.

## GOVERNMENT OF THE UNIVERSITY

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The legal designation of the Corporation is "THE PRESIDENT AND FELLOWS OF YALE COLLEGE IN NEW HAVEN," or "YALE UNIVERSITY;" the powers of this body have been granted and confirmed in the following order.

THE COLLEGIATE SCHOOL OF CONNECTICUT, subsequently named YALE COLLEGE, and now commonly called YALE UNIVERSITY, was founded in the summer of 1701 by the combined action of a few of the ministers in Connecticut, who obtained in October of that year a Charter from the Colony Legislature, which runs as follows:—

### AN ACT FOR LIBERTY TO ERECT A COLLEGIATE SCHOOL.

WHEREAS several well disposed, and Publick spirited Persons of their sincere regard to & Zeal for upholding & Propagating of the Christian Protestant Religion by a succession of Learned & Orthodox men have expressed by Petition their earnest desires that full Liberty and Priveledge be granted unto certain Undertakers for the founding, suitably endowing & ordering a Collegiate School within his Majesty's Colony of Connecticut wherin Youth may be instructed in the Arts & Sciences who thorough the blessing of Almighty God may be fitted for Publick employment both in Church & Civil State. To the intent therefore that all due encouragement be Given to such Pious Resolutions and that so necessary & Religious an undertakeing may be sett forward, supported and well managed:—

BE IT ENACTED by the Govern<sup>r</sup> & Company of the s<sup>d</sup> Colony of Connecticut in General Court now Assembled, And it is enacted & ordained by the Authority of the same that there be & hereby is full Liberty, Right and Priveledge Granted unto the Reverend M<sup>r</sup>. James Noyes of Stonnington, M<sup>r</sup>. Israel Chauncey of Stratford, M<sup>r</sup>. Thomas Buckingham of Saybrook, M<sup>r</sup>. Abraham Pierson of Kennelworth, M<sup>r</sup>. Samuel Mather of Windsor, M<sup>r</sup>. Samuel Andrew of Milford, M<sup>r</sup>. Timothy Woodbridge of Hartford, M<sup>r</sup>. James Pierpont of New Haven, M<sup>r</sup>. Noadiah Russel of Middletown, M<sup>r</sup>. Joseph Webb of Fairfield, being Rev<sup>d</sup> Ministers of the Gospel & inhabitants within y<sup>e</sup> s<sup>d</sup> Colony,

proposed to stand as Trustees, Partners or Undertakers for the s<sup>d</sup> School, to them and their successors, To ERECT, form, direct, order, establish, improve and att all times in all suitable wayes for the future to encourage the s<sup>d</sup> School in such convenient place or Places, & in such form & manner & under such order & Rules as to them shall seem meet & most conducive to the afores<sup>d</sup> end thereof, so as such Rules or Orders be not repugnant to the Laws of the Civil Govern<sup>t</sup>, as also to employ the moneys or any other estate which shall be Granted by this Court or otherwise Contributed to that use according to their discretion for the benefit of the s<sup>d</sup> Collegiate School from time to time & att all times henceforward.

And be it further ENACTED by the Authority afores<sup>d</sup> that the before named Trustees, Partners or Undertakers together with such others as they shall associate to themselves (not exceeding the number of Eleven, or att any time being less than Seven, Provided also that Persons nominated or associated from time to time to fill up s<sup>d</sup> number be ministers of the gospel inhabiting within this Colony & above the Age of forty years) or the major Part of them, the s<sup>d</sup> M<sup>r</sup>. James Noyes, [etc.] undertakers, & of such Persons so chosen & associated as aboves<sup>d</sup> att any time hereafter, HAVE and shall have henceforward the oversight, full & compleat Right, Liberty, power & Priveledge to furnish, direct, manage, order, improve & encourage from time to time & in all times hereafter the s<sup>d</sup> Collegiate School so Erected & formed by them in such ways, orders & manner & by such Persons, Rector or Master and officers appointed by them, as shall according to their best discretion be most conducive to attaine the afores<sup>d</sup> mentioned end thereof. . . .

It is also further Enacted by the Authority afores<sup>d</sup> that the s<sup>d</sup> Undertakers & Partners & their successors be & hereby are further empowered to have, accept, acquire, purchase or otherwise lawfully enter upon Any Lands, Tenements & Hereditam<sup>ts</sup> to the use of the s<sup>d</sup> School, not exceeding the value of five hundred Pounds p<sup>r</sup> Ann<sup>o</sup>, & any Goods, Chattels, Sum or Sums of money whatsoever as have heretofore already been Granted, bestowed, bequeathed or given, or as from time to time shall be freely given, bequeathed, devised or settled by any Person or Persons whatsoever upon & to & for the use of y<sup>e</sup> s<sup>d</sup> School towards the founding, erecting or endowing the same, & to sue for, Recover & receiv all such Gifts, Legacies, bequests, annuities, Rents, issues & profits arising therefrom & to imploy the same accordingly, & out of y<sup>e</sup> estate, Revenues, Rents, profits, incoms accruing & belonging to s<sup>d</sup> School to support & pay as the s<sup>d</sup> Undertakers shall agree & see cause, the s<sup>d</sup> Rector or Master, Tutors, Ushers or other officers their Respective annual Salaries or Allowances. As also for the encouragem<sup>t</sup> of the Students to grant degrees or Licences as they or those deputed by them shall see cause to order & appoint.



Under this Charter the Collegiate School was begun in November, 1701, at Saybrook, where it continued until its removal to New Haven, in October, 1716. In September, 1718, the name of YALE COLLEGE was given by the Trustees to the School, in honor of the benefactions of ELIHU YALE, of London, lately Governor of the East India Company's settlement at Madras.

In 1723 an "ACT IN EXPLANATION OF AND ADDITION TO THE ACT FOR ERECTING A COLLEGIATE SCHOOL" was passed by the General Assembly, with the following provisions:—

WHEREAS Pursuant to the Powers and Privileges granted to Certain Trustees for Erecting a Collegiate School in this Colony Entituled an Act for a Collegiate School, the Said Trustees have Erected the said School in the Town of New-Haven which School is now known by the Name of Yale Colledge; And Whereas it appears to this Assembly that an Explanation and Enlargement of the powers and privileges granted by Said Act is Necessary for the Carrying on the Affairs of the Said Colledge, for want of which it has Laboured under great difficulties very much to the prevention of that Order and good Education which is to be desired there :

Bee it therefore Enacted by the Governour, Council and Representatives in Generall Court assembled and by the Authority of the Same that the Said Act which provides that the Number of the Said Trustees be not under Seven nor above Eleven is not to be Understood or Taken so as to be restrictive of the power of the Said Trustees Never to Choose any person to be a Trustee, when there is of Such persons as have been Chosen and Acted as Trustees Eleven persons Living in the Colony or Elsewhere, but that in Case any person so Chosen be by Providence Incapacitated from attending that Service or shall himself decline the Same thro' the Necessity of his own Affairs or for any other such Reason as he shall Judge requisite, the Trustees in any of their Meetings Lawfully Called may be Understood to have and it is hereby Enacted and declared that they shall be Taken to have full power by the Majority of Such Meeting to proceed to the Choice of Another Trustee in the Room of any such person. And it is hereby further declared and Enacted to be the True Intent and Meaning of the Act afores<sup>d</sup> that the said Trustees shall be Impowered and they are hereby declared to have power to Meet Together for Considering, Advising about and Resolving upon all Matters belonging to the Trust of the Said Colledge committed unto them as afores<sup>d</sup> and to Agree and Conclude, Order and determine Concerning them by the Majority of the

Said Meeting, and by the same Majority to Choose and Appoint a Clerk who shall, in a fair book prepared for that End, Register and Carefully preserve the Acts of all such Meetings.

And WHEREAS it has been doubted what Number of the Said Trustees may be Lookt upon as a Sufficient or full Meeting, Inasmuch as there is not in the afores<sup>d</sup> Act any Express mention made of any Meeting of the said Trustees ; It is therefore to prevent all Scruple of that kind for the future hereby provided and declared that due Notice being given to the Trustees by Consent of any three of them of a Meeting of the Trustees desired at any Time or place, any Seven or more of the Trustees present at such Time and place shall be Esteemed a full Meeting. And it is hereby declared and Enacted that in all such Meetings, so Called, or Otherwise as the said Trustees in any such Meeting shall agree, all affairs under the Care of the said Trustees shall be determined by the majority of such Meeting.

And WHEREAS it has been found Inconvenient that in the Election of Persons to be Trustees, the Trustees Election by the afores<sup>d</sup> Act should be Limited and restrained so as that the Person who shall be Chosen must Necessarily be fourty Years of age ; It is hereby declared and Enacted that for the future the said Trustees in any Election of a person into that Trust shall not be Esteemed or held Obliged by said Act to Choose such a person as shall be above fourty Years of Age, but may Choose such a person otherwise Qualified According to said Act, Provided he is thirty Years of Age. And it is further hereby Allowed, Enacted, Granted and Provided that whosoever shall be Chosen and made a Rector of the said Colledge shall by Virtue thereof become a Trustee of the same and be so Esteemed and Taken during his Continuance in the said Rectorship.

In 1745 a thoroughly revised Charter was granted by the Assembly ; the provisions of permanent interest are as follows :—

*An ACT for the more full and complete Establishment of YALE COLLEGE in NEW HAVEN, and for enlarging the Powers and Privileges thereof.*

WHEREAS upon the Petition of several well-disposed and public-spirited Persons expressing their desire that full Liberty and Privilege might be granted unto Certain Undertakers for the founding, suitably endowing and ordering a *Collegiate School*, within this Colony, wherein Youth might be instructed in the Arts and Sciences, the Governor and Company of the said Colony in General Court assembled at *New Haven*, on the Ninth Day of October, in the Year of our Lord

1701, Granted unto the Rev'd Messrs. *James Noyes* [etc.], who were proposed to stand as Trustees, Partners or Undertakers for the Society, and to their Successors, full Liberty, Right and Privilege to erect, form, direct, order, establish, improve, and at all Times in all suitable Ways to encourage the said School in some convenient Place in this Colony, and granted sundry Powers and Privileges for the attaining the End aforesaid ;

*And Whereas* the said Trustees, Partners or Undertakers in pursuance of the aforesaid Grant, Liberty and License, founded a *Collegiate School* at *New Haven*, known by the Name of YALE COLLEGE, which has received the favorable Benefactions of many Liberal and piously disposed Persons, and under the Blessing of Almighty God has trained up many worthy Persons for the Service of God in the State as well as in the Church ;

*And Whereas* the General Court of this Colony assembled at *New Haven*, the Tenth Day of October, in the Year of our Lord 1723, did explain and enlarge the aforesaid Powers and Privileges granted to the aforesaid Partners, Trustees or Undertakers and their Successors, for the Purpose aforesaid ; as by the respective Acts, reference thereto being had, more fully and at large may appear ;

*And Whereas* the Rev'd Messrs. *Thomas Clap, Samuel Whitman, Jared Eliot, Ebenezer Williams, Jonathan Marsh, Samuel Cooke, Samuel Whittelsey, Joseph Noyes, Anthony Stoddard, Benjamin Lord, and Daniel Wadsworth*, the present Trustees, Partners and Undertakers of the said School, and Successors of those beforementioned, have petitioned, that the said School, with all the Rights, Powers, Privileges and Interests thereof, may be confirmed, and that such other additional Powers and Privileges may be granted as shall be necessary for the Ordering and Managing the said School in the most advantageous and beneficial Manner for the promoting all good Literature in the present and succeeding Generations :

Therefore,

THE GOVERNOR and COMPANY of his Majesty's said English Colony of *Connecticut* in General Court assembled, this Ninth Day of *May*, in the Year of our Lord 1745, enact, ordain, and declare, and by these Presents it is enacted, ordained and declared—

That the said *Thomas Clap* [etc.], shall be an *Incorporate Society* or *Body Corporate and Politic*, and shall hereafter be called and known by the name of THE PRESIDENT AND FELLOWS OF YALE COLLEGE IN NEW HAVEN, and that by the same Name they and their Successors shall and may have perpetual Succession, and shall and may be Persons in the Law capable to plead and be impleaded, defend and be defended, and answer and be answered unto ; and also to have, take, possess, acquire, purchase or otherwise receive Lands, Tenements, Hereditaments, Goods, Chattels, or other Estates, and the same Lands, Tenements,

Hereditaments, Goods, Chattels, or other Estates to grant, demise, lease, use, manage or improve for the Good and benefit of the said *College*, according to the Tenor of the Donation, and their Discretion.

That all Gifts, Grants, Bequests, and Donations of Lands, Tenements, or Hereditaments, of Goods and Chattels heretofore made to or for the Use, Benefit and Advantage of the *Collegiate School* aforesaid, whether the same be expressed to be made to the President or Rector, and to the rest of the Incorporate Society of *Yale College*, or to the Trustees or Undertakers of the *Collegiate School* in *New Haven*, or to the Trustees by any other Name, Style or Title whatsoever, whereby it may be clearly known and understood that the true Intent and Design of such Gifts, Grants, Bequests and Donations, was to or for the Use, Benefit and Advantage of the Collegiate School aforesaid, and to be under the Care and Disposal of the Governors thereof, shall be confirmed, and the same hereby are confirmed, and shall be and remain to, and be vested in the President and Fellows of the *College* aforesaid, and their Successors, as to the true and lawful Successors of the original Grantees.

That the said PRESIDENT AND FELLOWS and their Successors shall and may hereafter have a common Seal, to serve and use for all Causes, Matters and Affairs of them and their Successors, and the same Seal to alter, break and make new as they shall think fit.

That the said THOMAS CLAP shall be, and he is hereby established the present PRESIDENT, and the said *Samuel Whitman*, [etc.] shall be, and they are hereby established the present FELLOWS of the said *College*, and that they and their Successors shall continue in their respective Places during Life, or until they or either of them shall resign, or be removed, or displaced, as in this Act is hereafter expressed.

That there shall be a General Meeting of the *President and Fellows* of said *College*, in the College Library on the second Wednesday of September annually, or at any other Time and Place which they shall see Cause to appoint, to consult, advise and act in and about the Affairs and Business of the said *College*; and that on any special Emergency, the President and two of the Fellows, or any four of the Fellows, may appoint a Meeting of the said *College*, provided they give Notice thereof to the Rest by Letters sent and Left with them, or at the Places of their respective Abode, five Days before such Meeting; and that the President and six Fellows, or in Case of the Death, Absence, or Incapacity of the President, seven Fellows, convened as aforesaid (in which Case the eldest Fellow shall preside), shall be deemed a Meeting of the President and Fellows of said *College*, and that in all the said Meetings, the Major Vote of the Members present shall be deemed the Act of the Whole, and where an Equivote happens, the President shall have a casting Vote.

That the President and Fellows of the said *College* and their Successors, in any of their Meetings assembled as aforesaid, shall and may

from Time to Time, as Occasion shall require, elect and appoint a President or Fellow in the Room and Place of any President or Fellow who shall die, resign, or be removed from his Office, Place or Trust (whom the said Governor and Company hereby declare, for any Misdemeanor, Unfaithfulness, Default or Incapacity, shall be removable by the President and Fellows of the said College; Six of them, at least, concurring in such Act); and shall have Power to appoint a Scribe or Register, a Treasurer, Tutors, Professors, Steward and all such other Officers and Servants, usually appointed in Colleges or Universities, as they shall find necessary and think fit to appoint for the promoting good Literature, and the well ordering and managing the Affairs of said College; and them or any of them, at their Discretion, to remove; and to prescribe and administer such Forms of Oaths (not being contrary to the Laws of England or of this Colony) as they shall think proper, to be administered to all the Officers and Instructors of the said College, or to such and so many of them as they shall think proper, for the faithful Execution of their respective Places, Offices and Trusts.

That the President and Fellows shall have the Government, Care and Management of the said College and all the Matters and Affairs thereunto belonging, and shall have Power from Time to Time, as Occasion shall require, to make, ordain and establish all such wholesome and reasonable Laws, Rules and Ordinances, not repugnant to the Laws of England, nor the Laws of this Colony, as they shall think fit and proper for the Instruction and Education of the Students, and Ordering, Governing, Ruling and Managing the said College, and all Matters, Affairs, and Things thereunto belonging, and the same to Repeal and alter as they shall think fit.

That the President of said College, with the Consent of the Fellows, shall have Power to give and confer all such Honors, Degrees or Licenses as are usually given Colleges or Universities, upon such as they shall think worthy thereof.

In 1792 a grant of money from the State of Connecticut was received, upon the condition that certain State officials should become members of the Board of Fellows, as below expressed :—

In case this grant shall be accepted, in manner as hereinafter provided, the Governor, Lieutenant Governor, and six senior assistants in the Council\* of this State, for the time being, shall ever hereafter, by virtue of their said offices, be trustees or fellows of said college; and shall together with the present President and Fellows of said College, and their successors, constitute one corporation, by the name and style

\* Changed in 1819 to the six senior senators.

mentioned in the charter of said College; and shall have and enjoy the same powers, privileges, and authority, in as full and ample a manner, as though they had been expressly named and included in said charter; And that in case of vacancy, by the death, or resignation, or in any other way, of any of the present Fellows of said College, and their successors, every such vacancy shall forever hereafter be supplied by them, and their successors, by election, in the same manner as though this act had never passed.

In the new Constitution of the State, adopted in 1818, the privileges conferred by the Charter were reaffirmed, as follows:—

ARTICLE VIII, SECT. I.

The charter of Yale College, as modified by agreement with the Corporation thereof, in pursuance of an Act of the General Assembly, passed in May, 1792, is hereby confirmed.

In 1872, at the request of the Corporation, an Act was passed by the General Assembly, providing (as follows) for the substitution of graduates in the place of the six senators among the Fellows:—

SECTION 1.—All graduates of the first degree, of five or more years' standing, in any of the departments of Yale College, and all persons who have been admitted to any degree higher than the first in Yale College, whether honorary or in course, may, on the day next preceding the public commencement day of said College, in the year of our Lord 1872, cast their votes, under such regulations as the President and Fellows may prescribe, for six persons to be chosen from among such graduates; and the six persons who shall be found to be elected by a plurality of the votes cast, shall be the Fellows of Yale College in the stead of the six senior senators of the State, and shall have all the rights, duties, and privileges as Fellows which are now by law conferred upon said senators. In case of an equality of votes between two or more candidates, the person who shall hold the said office of Fellow shall be designated by lot from among the persons receiving such equality of votes.

SECTION 2.—The Fellows thus elected shall enroll themselves by lot in six classes, one holding the office for six years, another for five years, another for four years, another for three years, another for two years, and another for one year, eligible for re-election; and every year as a vacancy occurs, all graduates of the first degree, of five or more years' standing

in any of the departments of Yale College, and all persons who have been admitted to any degree higher than the first in Yale College, whether honorary or in course, may, upon the day next preceding commencement day, in the manner heretofore prescribed, elect by a plurality of votes a person to fill the vacancy, and hold the office of Fellow for a period of six years, eligible for re-election; and so whenever a vacancy shall occur from death, resignation, or any other cause, such graduates may elect a person at the next commencement to fill the office of Fellow for the remainder of the term in which a vacancy has occurred. The official year of such Fellows shall end with the day next preceding each commencement day.

In January, 1887, an Act passed the General Assembly of the State, authorizing the use of the title "YALE UNIVERSITY" by the President and Fellows of Yale College, and providing that gifts to, contracts with, conveyances to or by, and other acts affecting said Corporation by either of the names specified shall be valid.

## DEPARTMENTS OF INSTRUCTION

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The courses of study offered in the University are comprehended in four Departments, under the control of the Corporation, each Department being also under the administration of a distinct Faculty of instruction. The Departments are as follows :—

THE DEPARTMENT OF PHILOSOPHY AND THE ARTS ;

THE DEPARTMENT OF THEOLOGY ;

THE DEPARTMENT OF MEDICINE ;

THE DEPARTMENT OF LAW.

Under the first-named Department are included two separately organized sections in which instruction for undergraduates is provided, viz :—

THE ACADEMICAL DEPARTMENT, and

THE SHEFFIELD SCIENTIFIC SCHOOL ;

also, THE SCHOOL OF THE FINE ARTS, with a special organization ; and The Courses for GRADUATE INSTRUCTION, under the combined Faculty of the Department.

It is to be understood that the courses of instruction above described are open to persons of the male sex only, except when both sexes are specifically included.

The LIBRARY, the PEABODY MUSEUM OF NATURAL HISTORY, and the OBSERVATORY are severally organized independently of the special Departments, and are designed to contribute, in their appropriate spheres, to the instruction and advancement of the whole institution.



# ACADEMICAL DEPARTMENT

## (YALE COLLEGE)

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### FACULTY

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT  
REV. NOAH PORTER, D.D., LL.D., *Professor of Moral Philosophy and Metaphysics*  
JAMES D. DANA, PH.D., LL.D., *Professor of Geology and Mineralogy*  
EDWARD J. PHELPS, LL.D., *Professor of Law*  
HUBERT A. NEWTON, LL.D., *Professor of Mathematics*  
ARTHUR M. WHEELER, M.A., *Professor of History*  
J. WILLARD GIBBS, PH.D., *Professor of Mathematical Physics*  
ARTHUR W. WRIGHT, PH.D., *Professor of Experimental Physics*  
EUGENE L. RICHARDS, M.A., *Assistant Professor of Mathematics*  
WILLIAM I. KNAPP, PH.D., LL.D., *Professor of Modern Languages*  
FRANKLIN B. DEXTER, M.A., *Registrar*  
TRACY PECK, M.A., *Professor of Latin*  
REV. CORNELIUS L. KITCHEL, M.A., *Instructor in Greek*  
WILLIAM G. SUMNER, LL.D., *Professor of Political and Social Science*  
REV. GEORGE T. LADD, D.D., *Professor of Mental and Moral Philosophy*  
CHARLES H. SMITH, M.A., *Professor of American History*  
HENRY P. WRIGHT, PH.D., *Professor of Latin, and Dean*  
HENRY A. BEERS, M.A., *Professor of English Literature*  
EDWARD S. DANA, PH.D., *Professor of Physics*  
THOMAS D. SEYMOUR, M.A., *Professor of Greek*  
WILLIAM R. HARPER, PH.D., *Professor of Biblical Literature*  
FRANK A. GOOCH, PH.D., *Professor of Chemistry*  
ALBERT S. COOK, PH.D., L.H.D., *Professor of English*  
WILLIAM BEEBE, B.A., *Assistant Professor of Mathematics and Astronomy*  
ANDREW W. PHILLIPS, PH.D., *Assistant Professor of Mathematics*  
GEORGE B. ADAMS, PH.D., *Professor of History*  
EDWARD B. CLAPP, PH.D., *Assistant Professor of Greek*  
THOMAS D. GOODELL, PH.D., *Assistant Professor of Greek*  
EUGÈNE BERGERON, *Instructor in French*  
HORATIO M. REYNOLDS, B.A., *Assistant Professor of Greek*  
FRANK P. GOODRICH, B.A., *Instructor in German*

GEORGE M. DUNCAN, M.A., *Instructor in Mental and Moral Philosophy*  
FRANK F. ABBOTT, B.A., *Tutor in Latin*  
EDWARD T. McLAUGHLIN, B.A., *Assistant Professor of English*  
GUSTAVE F. GRUENER, B.A., *Tutor in German*  
W. IRVING HUNT, B.A., *Tutor in Greek*  
JUDSON S. DUTCHER, B.A., *Tutor in Mathematics*  
CHARLES A. MOORE, B.A., *Tutor in Latin*  
EDWARD CAPPS, B.A., *Instructor in Latin*  
IRVING FISHER, B.A., *Instructor in Mathematics*

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#### OTHER INSTRUCTORS

WILLIAM D. WHITNEY, PH.D., LL.D., *Professor of Comparative Philology and Sanskrit*  
MARK BAILEY, M.A., *Instructor in Elocution*  
GUSTAVE J. STÖCKEL, Mus.D., *Professor of Music*  
WILLIAM C. ROBINSON, LL.D., *Professor of Law*  
DANIEL C. EATON, M.A., *Professor of Botany*  
SIDNEY I. SMITH, M.A., *Professor of Comparative Anatomy*  
RUSSELL H. CHITTENDEN, PH.D., *Professor of Physiological Chemistry*  
ARTHUR T. HADLEY, M.A., *Professor of Political Science*  
JAY W. SEAVER, M.D., *Instructor in Gymnastics and Practical Hygiene*  
E. HERSHEY SNEATH, PH.D., *Instructor in Philosophy*  
ROBERT F. HARPER, PH.D., *Instructor in the Semitic Languages*  
OLAU DAHL, B.A., *Instructor in Swedish and Danish*  
JOHN C. SCHWAB, PH.D., *Instructor in Political Science*

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From the date of the original Charter, in 1701, a course of instruction leading to the degree of Bachelor of Arts has been continuously offered at the College; at first only three years of undergraduate study were required, but before 1710, a four years' course was provided, which has been since maintained.

Until 1813, when a Medical School was organized, no other course of study for a degree was marked out at Yale College; but with the incorporation of the Medical Institution (as it was originally styled) the older Department began to be designated the Academical Institution (or

Department), and has continued to be so designated until at length, with the growth of other Schools about it and the expansion of the whole into Yale University, the original title of Yale College has again come to be applied distinctively to this Department.

#### TERMS OF ADMISSION

ALL CANDIDATES FOR ADMISSION to the Freshman Class are examined in the following books and subjects; certificates of standing elsewhere are not accepted in place of this examination:—

1. Latin Grammar.
  2. Caesar—Gallic War, books i-iv.
  3. Cicero—Orations against Catiline and for Archias, and, in addition, either the Milo, or the Manilian Law, or the Cato Major, or the Marcellus and the 14th Philippic.
  4. Vergil—Bucolics, and first six books of the Aeneid, including Prosody.
  5. Ovid—Metamorphoses, translation at sight.
  6. The translation, at sight, into simple and idiomatic English, of passages from prose Latin.
  7. The translation into Latin of connected passages of English prose. [As special importance is given to this part of the examination, it is suggested to teachers that they connect exercises in making Latin, both oral and written, with all the Latin studies of the preparatory course.]
  8. Roman History, to the death of Augustus.
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9. Greek Grammar.
  10. Xenophon—Anabasis, four books.
  11. Homer—Iliad, three books, with Prosody.
  12. The translation, at sight, into simple and idiomatic English, of a passage from some work of Xenophon.
  13. The translation of English into Greek: Jones's Exercises, White's Lessons, and Keep's Lessons are suggested, as indicating the preparation required.
  14. Greek History.
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15. Higher Arithmetic—including the metric system of weights and measures.
  16. Algebra—so much as is included in Loomis's Treatise, up to the chapter on Logarithms.
  17. Plane Geometry.

18. French or German—so far as to translate at sight easy prose, the candidate being at liberty to decide for himself in which of the two languages he shall be examined.

Candidates are allowed to divide the examination, with an interval of not less than a year between the two parts. In such cases, they must present themselves at one of the two regular examinations, that is, either in June or in September, of the first year; and at this preliminary examination each candidate must submit a definite statement from his principal instructor of the subjects which he is authorized to offer. No candidate will be allowed to offer French, German, Geometry, the translation at sight of prose Latin, or of prose Greek, at a preliminary examination; and at the close of such an examination, no certificate of partial admission will be furnished, unless at least six subjects have been satisfactorily passed.

THE REGULAR EXAMINATION FOR ADMISSION to College is held at Alumni Hall, New Haven, on Thursday, Friday, and Saturday after Commencement (June 25, 26, 27, 1891); *attendance is required at the opening of the examination, at 9 A. M. on Thursday*, and the sessions will close at noon on Saturday. The examination is wholly in writing; a set of papers recently given will be sent on application.

In 1891 examinations (beginning on Thursday, June 25, at 9 A. M., and closing Saturday noon) for admission to the Freshman Class (but not to higher classes) will also be held in Concord and Exeter, N. H., Andover, Mass., Norwich, Conn., New York City, Albany, Buffalo, Cleveland, Cincinnati, Chicago, and San Francisco, at places to be announced in the local newspapers of the day previous. Candidates who propose to be present elsewhere than at New Haven are requested to send their names to the Registrar before June 15. A fee of five dollars (payable at the opening of the sessions) is charged for admission to examinations outside of New Haven. The College is also prepared to hold an examination, at the above named time, in any city or at any school where the number of can-

didates and the distance from other places of examination may warrant it ; applications for this purpose must be sent to the Registrar before May 15.

A second examination is held, *in New Haven only*, at the beginning of the College year, on Tuesday and Wednesday (September 22, 23, 1891) ; candidates for this examination must be present at Alumni Hall at 9 A. M. on Tuesday.

Persons applying for admission to any of the classes in College during the course of the College year (from September to June) must first obtain from the Faculty permission to be examined, and pay to the Treasurer a fee of \$10.00.

In general, examinations for admission to the next Freshman Class can be held only in June and September as specified ; if in any case sufficient reason exists for an exception to this rule, a special fee (not exceeding fifty dollars) will be charged. X

• **ADVANCED STANDING**—All candidates for advanced standing, *whether from other Colleges or not*, are examined, in addition to the preparatory studies, in those studies already pursued (see pp. 34 ff.) by the class which they wish to enter. In the several languages, for the particular books studied by the class, equivalent amounts from other books may be offered. Certificates of standing elsewhere cannot be accepted in place of these examinations, although they may be taken into account as collateral evidence of fitness for admission.

Bachelors of Arts or of Philosophy of any institution may join the Senior Class (without examination and without becoming candidates for the Bachelor's degree), as candidates for the degree of Doctor of Philosophy after three years' study.

No one can be admitted to the Senior Class after the beginning of the second term.

**AGE**—No one can be admitted to the Freshman Class till he has completed his fifteenth year, nor to an advanced standing without a corresponding increase of age.

**TESTIMONIALS**—Satisfactory testimonials of good moral character (preferably from the last principal instructor)

are in all cases required, before a certificate of admission in full is granted. Students from other Colleges must present certificates of dismissal in good standing.

**BOND**—Every person must give to the Treasurer, on being admitted, a bond, executed by his parent or guardian, for five hundred dollars, as security for the payment of charges arising under the laws of the College. A blank form for this purpose will be furnished at the time of admission.

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#### GOVERNMENT AND INSTRUCTION

The Dean has the general supervision under the Faculty of the Senior and Junior classes; the members of the two lower classes are assigned by divisions for a similar supervision to the care of the several instructors in those classes. Absence from College exercises will be excused only for extremely urgent reasons. In general, a student cannot be excused for absence at the beginning or near the end of a term.

In order to cover all cases of absence which may seem justifiable to the student, but for which no excuses will be accepted, an allowance is granted to a member of the Senior or Junior class of absence from eight class-room exercises (recitations, lectures, or rhetorical appointments), and to a member of the Sophomore or Freshman class from six class-room exercises, during the first term and during each half of the second term, without incurring marks and without affecting his record for scholarship; provided that these absences shall not immediately precede or follow a vacation or recess; provided, also, that no two absences shall be consecutive in any one study, and that such absences shall not excuse the student from preparation upon the omitted lessons when reviewed.

The members of each of the three lower classes are arranged at the beginning of each term in divisions according

to scholarship. During the present year, for required work the Senior class is divided into four divisions, the Junior class into four, the Sophomore class into six, and the Freshman class into eight divisions ; in the elective courses, the divisions are of convenient size for class-room work.

Greek, Latin, and Mathematics occupy twelve hours of class-room work per week during the Freshman and Sophomore years ; three hours of class-room work per week during the Freshman year, and two hours during the Sophomore year, are given to Modern Languages ; two hours per week through the Sophomore year are given to English ; and one hour per week in the Freshman year to Oriental History.

If a student can pass a satisfactory examination in any of the prescribed studies for the work of one year in advance, he may be allowed to choose from the list of Electives some other course which he is qualified to pursue with advantage, covering the same number of hours.

In the Freshman and Sophomore years all the work is *prescribed*. The kind and amount of study in these two years are believed to be such as are essential for laying the foundation of a liberal education, whatever the department or profession that may be pursued in after-life ; and no more than is needed to give the student a proper basis of knowledge and discipline for the study of the *elective* courses which follow, and that knowledge of himself, and of the subjects before him, which is needed for a judicious choice. The basis is necessarily a broad one. The only prominent departments not now in this foundation, either in the preparatory or college work, though pursued in the later elective courses, are those of the Natural Sciences and Chemistry. As some knowledge of these departments, of their methods of reasoning, of the use of the words "species" and "genus," and some idea of the system of nature, are essential to the student of almost any branch of philosophy, as well as to those who may take the elective courses in these sciences, it is recommended that the student should include the study of the elements of some

departments of the Natural Sciences, and of Chemistry, in his preparation for College.

Of the work of the Junior year three-fifths and of that of the Senior year over four-fifths are in elective courses. The whole number of elective studies open to the two classes is at the present time one hundred and nineteen; and in addition there are several courses of lectures, attendance on which is optional. The Juniors have open to them elective studies in the English Language and Literature, History, Political Science, the Natural Sciences, and Music, in addition to those in the departments of the Classics, the Modern Languages, and Mathematics; and the Seniors, electives under all these departments, along with others of higher range as particularly explained below.

Many of the courses fall naturally into groups: as that of the Ancient Languages and Linguistics; Psychology, Logic, and Philosophy, with Ethics; Political Science and Law; History; Modern Languages and Literature; Mathematics and Physics; Chemistry and the Natural Sciences; and the student is recommended to select his courses as far as possible according to his needs, in part perhaps according to his expectations as to future work, fixing first upon the chief subject, and selecting others that are subsidiary to it. In several cases, related courses are accessible to the student only as they are taken consecutively.

To promote the rational choice of elective courses, SPECIAL HONORS in various groups of studies are offered, to be given at the end of the Senior year, in accordance with the scheme on page 65.

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THE PROGRAM OF STUDIES for the current year is as follows:

FRESHMAN YEAR:

*Greek*—Homer's *Odyssey*, five books; Xenophon's *Hellenica*; Herodotus, seventh book.

*Latin*—Livy, books xxi and xxii; *Tusculanae Disputationes*, De *Amicitia*, and De *Senectute* of Cicero; *Satires* of Horace; Prose Composition; History of the Roman Republic.



*French or German*—Three hours a week throughout the year. Students may at their option either continue the study of the modern language presented for admission to college, or begin the study of German in case they have not previously pursued it. Those who have sufficient knowledge of either language will be assigned to classes still further advanced.

*Mathematics*—In *Geometry*: Planes, Polyhedrons, Cones, Cylinders, and Spheres. Projection of figures with exercises on Models. Text-book, Chauvenet's *Geometry*.

*Plane Trigonometry*: Solutions of Triangles, Mensuration, and Surveying. Text-book, Richards's *Trigonometry*. *Trigonometric Analysis*. Text-book, Case's *Elementary Treatise*.

*Algebra*: The Geometrical interpretation of the Theory of Equations, Imaginaries, and the Solution of Higher Equations. Text-book, Phillips & Beebe's *Graphic Algebra*.

*Oriental History*—One hour a week. A general view of Egyptian, Assyrian and Babylonian, and Persian history, with special reference to Biblical and Classical history. Lectures with printed syllabus, and weekly written recitations.

#### SOPHOMORE YEAR:

*Greek*—Sophocles' *Antigone* and *Electra*; Euripides' *Medea*; Thucydides, first book; Isocrates' *Panegyric*; Plato's *Apology*.

*Latin*—Pliny's *Letters*; Agricola and Germania of Tacitus; Odes and Epodes of Horace; Menaechmi of Plautus; *Andria* and *Adelphi* of Terence; Sight-reading.

*Modern Languages*—Advanced French, or advanced German, at the option of the student, two hours a week throughout the year. Those who so desire may begin the study of German, in case they have never pursued it.

*Mathematics*—*Trigonometry*: Spherical Trigonometry; Applications to Navigation and Astronomy. Text-book, Richards's *Trigonometry*.

*Analytical Geometry*: Plane and Solid, with Applications to Map-Projection. Text-book, Loomis's *Analytical Geometry*.

*Mechanics*—The elementary principles of Kinematics, Kinetics (or Dynamics), and Statics, in reference to solid bodies, with practical applications. Text-book, Dana's *Mechanics*.

*Astronomy*—Loomis's *Treatise*.

*English*—Through half the year, readings in Addison, Lamb, DeQuincey, Macaulay, Ruskin, and Arnold. Through the remainder of the year, weekly exercises in extempore composition, connected with the theoretical study of Rhetoric.

*Compositions*—Compositions through the year; both extended essays and class-room exercises in extempore writing.

## JUNIOR AND SENIOR YEARS:

The *prescribed* courses of Junior year occupy six hours per week, and those of Senior year two hours per week. In addition, each member of the Junior class is required to select nine hours per week, and each member of the Senior class thirteen hours per week, from the list of *elective* courses.

## PRESCRIBED STUDIES OF JUNIOR YEAR:

*Physics*—Ganot's Physics: during the first term the subjects of Liquids, Gases, Sound, and Light, and part of the subject of Heat, with experimental illustrations in the class-room; during the second term, Heat, continued, followed by Electricity and Magnetism, with weekly experimental lectures on these three subjects.

*Logic*—Jevons's Lessons in Logic; Fowler's Inductive Logic; exercises in the criticism of arguments; lectures.

*Psychology*—Porter's Elements of Intellectual Science; lectures.

*Ethics*—Porter's Elements of Moral Science.

*Theism, and the Evidences of Christianity*—Lectures.

## PRESCRIBED STUDIES OF SENIOR YEAR:

*Philosophy*—One course in this department of study, two hours per week throughout the year, is prescribed. The particular course taken is left, however, to the choice of the pupil from a list of four or more courses. Under the term Philosophy, as here used, is included the study of psychology, ethics, and the history of philosophy.

## RHETORIC AND ELOCUTION:

*Rhetoric*—English Composition. Four or five themes a year are required from each member of the Junior and Sophomore classes; these themes are read and corrected by the instructors in Rhetoric. For premiums in this department see pp. 77, 78.

*Elocution*—Sophomore Year: Lectures on the Science and Art of Elocution,—logical analysis,—vocal analysis, expression, and culture,—oratorical action. Practice in speaking and recitation by sub-divisions. Individual instruction and private drill in preparation for speaking before the Professor of Rhetoric for the "Prizes for Declamation."

Junior Year: Three weeks of preparatory training for the speakers at the Junior Exhibition.

Senior Year: Three weeks of preparatory training for the speakers at Commencement.

## ELECTIVE COURSES

Junior select nine hours per week, and Seniors fifteen hours per week, from the following list. All the courses are open to members of either class, unless some limitation is specified. The number of hours specified means, in every case, hours per week. When a course is stated as occupying "both terms," it cannot, if chosen, be abandoned during the year.

## I. PSYCHOLOGY, ETHICS, AND PHILOSOPHY

[Every Senior is required to take one course in this department. He must choose, for this purpose, from courses 1, 2, 3 and 4. He may elect, in addition, any other of these four.]

Ex-President PORTER and Dr. SNEATH :—

1 *Advanced Ethics.* [Seniors.] 2 hrs. both terms.

This course has special reference to social and theological questions. The exercises involve the critical history and analysis of the systems of the most important ethical writers. The works used principally as text-books are the following: Wilson and Fowler, *Moral Philosophy*; Alexander on *Moral Order and Progress*; Abbot's *Kantian Ethics*. Reference will also be made to Sidgwick, *History of Ethical Theories and Methods of Ethics*; Martineau, *Types of Ethical Theory*; Porter, *Kantian Ethics*; Spencer, *Data of Ethics*; Leslie Stephen, *System of Ethics*; J. S. Mill, *Utilitarianism*.

Professor LADD :—

2 *Introduction to Philosophy.* [Seniors.] 2 hrs. both terms.

The design of this course is to present, in an elementary and summary way, the principal philosophical problems. To this end, some brief work on psychology is read,—followed by the reading of a book on the *Introduction to Philosophical Study*. Lectures and discussions continue through the year. Toward the close of the course, special emphasis is laid on Ethics, Aesthetics, and the Philosophy of Religion.

3 *Physiological Psychology.* 2 hrs. both terms.

A study (illustrated by charts, models, and histological preparations) of the human nervous mechanism, of the principal relations which exist between changes in this mechanism and the activities of the mind, and a discussion of the conclusions which may be drawn from these relations respecting the nature and laws of the mind. Ladd's *Elements of Physiological Psychology*.

Mr. DUNCAN :—

4 *History of Philosophy.* [Seniors.] 2 hrs. both terms.

An elementary study of the development of speculative thought from Descartes to the present time, with cursory reading of philosophical masterpieces from Descartes to Kant. Descartes' *Method and Principles of Philosophy*, pt. i; Bacon's *Novum Organum*; Spinoza's *Ethics*—selections; Locke's *Essay on Human Understanding*—selections; Leibnitz's *Monadology* and *Philosophical Opuscles*; Berkeley's *Principles of Human Knowledge*; Hume's *Inquiry concerning Human Knowledge*; Kant's *Prolegomena*.

Ex-President PORTER :—

5 *Psychology and Philosophy.* [Seniors.] 1 hr. both terms.

This course is designed to afford the student opportunity to re-examine some of the questions which have been raised by the earlier study of psychology. Porter's *Human Intellect* is read, with special reference to the portions printed in smaller type.

Professor LADD :—

6 *Pedagogics.* 1 hr. both terms.

The theory and practice of teaching are discussed, with recitations and lectures based upon Rosenkranz, *Philosophy of Education*, and Fröbel, *Education of Man*.

7 *Philosophy.* [Seniors.] 1 hr. both terms.

This course consists of expository and critical lectures upon Kant's *Critique of Pure Reason*, with reading and discussion of this masterpiece by the class.

8 *History of Philosophy.* [Seniors.] 2 hrs. both terms.

The philosophical development of the seventeenth century on the continent of Europe, as introductory to Kant, is made the

subject of study in this course. Some of the master-pieces of Descartes, Spinoza, and Leibnitz will be read and discussed before the class. The course is designed for those who wish to make a special study—for honors or otherwise—of philosophy.

Mr. DUNCAN:—

9 *Advanced Logic, Psychology, and Ethics.*

[Seniors.] 1 hr. both terms

A study, more comprehensive, of the principal questions in these subjects raised by the required course of Junior year.

## II. POLITICAL SCIENCE AND LAW

Professor SUMNER:—

10 *Political Economy.* 2 hrs. both terms.

The elements of Political Economy, and the recent financial history of the United States, with lectures on the elementary principles. This course should be taken by Juniors who intend to give especial attention to this subject, as it is introductory to all the Senior courses in this department.

11 *Political Economy.* [Seniors.] 3 hrs. both terms.

A one-year course planned to give a substantial and comprehensive knowledge of the essentials of Political Economy to those whose chief interest lies in other departments of study.

(Courses 12 to 15 are open only to those who have taken course 10 in Political Economy.)

12 *Political Economy.* [Seniors.] 2 hrs. both terms.

Advanced Political Economy, consecutive with course 10. There are lessons in selected passages from the leading text-books, and in economic history; also study of problems, examination of cases, and theses on leading topics of doctrine and history.

13 *Financé.* [Seniors.] 1 hr. both terms.

A second-year course in money, banking, taxation, and public debts. The exercises consist of text-book lessons and papers on assigned topics. Those who can read French with sufficient facility, read Leroy-Beaulieu's *Science des Finances*. Courses 12 and 13 are the continuation into Senior year of course 10; the time and topics being divided for convenience of choice.

## Professor SUMNER and Dr. SCHWAB :—

14 *School of Political Economy.* [Seniors.] 1 hr. both terms.

A school of Political Economy is formed for those who desire to make this subject their chief study during the year. The financial history of the United States since 1860 is the field of study this year. Each student is expected to investigate an assigned topic thoroughly, and to prepare a series of papers upon it. No one is admitted who does not take courses 12 and 13, and each one who desires to join must obtain the consent of the instructor, which is given to those whose previous work in the department shows that they are most competent for this kind of work.

## Professor SUMNER :—

15 *Social Science.* [Seniors.] 1 hr. both terms.

A very elementary course in the structure of society, and the origin and laws of development of civilization, on the basis of Prehistoric Science, Ethnology, and Archæology. The topics are illustrated by plates from the whole literature of Anthropology, and by visits to the museum. The course is occupied entirely with positive information and scientific method, and does not take up any of the subjects of criticism and speculation popularly connected with "social science." The class consists of three sections. The English section reads Tylor's Anthropology and Joly's *Man Before Metals*. The French section reads Quatrefages' *Histoire Générale des Races Humaines*. The German section reads Lippert's *Kulturgeschichte*. The exercises, for the French and German sections, are an hour and a quarter each, and count as two hours.

## Professor HADLEY :—

16 *Industrial History of the United States since 1850.*

[Seniors.] 2 hrs. 1st term.

Open only to those who have already studied Political Economy. Each student is required to prepare a thesis on some topic connected with United States industrial development. These theses involve original investigations in history or statistics, and advanced economic reasoning.

17 *Modern Economic Theories.* [Seniors.] 2 hrs. 2d term.

An account of some of the attacks upon the current doctrines of Political Economy, especially on the part of the socialists.

George's Progress and Poverty and Rae's Contemporary Socialism are read and criticised in detail. The course is open only to those who have already studied Political Economy; but it is not necessary that they should have taken course 16.

Professor PHELPS :—

18 *Law.* [Seniors.] 2 hrs. 2d term.

The common law of this country. Constitutional law. International law. The instruction is by lectures based upon textbooks to be read in connection.

Course 18 is only open to those who have taken course 19.

Professor ROBINSON :—

19 *Jurisprudence.* [Seniors.] 2 hrs. 1st term.

The course consists of lectures, readings, and examinations on the following subjects: law in its relations to the origin, development and government of political society; origin and development of the customary law; relation of statute law to customary law; formation and development of codes of law; nature and origin of legal rights; principles of the law governing rights in land; principles of the law governing contract rights; the law of remedies for the violation of rights; origin and procedure of courts of law and equity; criminal law. The instruction in this course is designed to present an historical and philosophical view of the law in its great outlines, as common to all nations, and as particularly developed in the Anglo-Saxon race, and thus to serve as an introduction to course 18.

### III. HISTORY

Professor WHEELER :—

20 *History of Europe since 1789.* [Seniors.] 2 hrs. both terms.

Mainly political; introductory to European politics of our day.

21 *English History.* [Seniors.] 3 hrs. both terms.

Political and constitutional. Particular attention is given to the origin and development of the system of self-government. The course is of especial value to those who intend to study law.

## Professor C. H. SMITH :—

- 22 *American History.* [Juniors.] 2 hrs. both terms.  
Narrative and political history of the Colonies and United States. Special attention is given, in the Colonial period, to relations with England and important contemporary movements in Europe; in the national period, to the rise and progress of political parties.
- 23 *American History.* [Seniors.] 2 hrs. both terms.  
An historical study of the constitution, its sources, formation, adoption, and operation, with special attention to Supreme Court interpretations.

## Professor ADAMS :—

- 24 *Europe from 1520 to 1789.* [Seniors.] 2 hrs. both terms.  
The history of Europe from the Reformation to the French Revolution. Especial attention is given to the political history.
- 25 *Medieval History.* 2 hrs. both terms.  
The object of the course is to furnish an outline of the general history of Europe, and to follow the development of political, intellectual and religious civilization through the period which lies between ancient and modern history.
- 26 *The Beginning of the Middle Ages.* 1 hr. both terms.  
The course will consider the fall of Rome, the establishment of Christianity and of the Roman Church, the German invasions, and the beginning and organization of the new governments. Not open to those taking or to those who have taken course 25.

## IV. MODERN LANGUAGES

## Professor KNAPP :—

- 27 *Old French and Anglo-Norman.* 1 hr. both terms.  
Readings in Old French and Anglo-Norman literature by the professor, with lectures on Romance Philology. Oral and written examinations following the completion of each subject. Study of the Norman-French element in English.
- 28 *French.* 2 hrs. both terms.  
Critical study of Victor Hugo and Balzac, with lectures and examinations on the same, and on the history of Romanticism in France.



- 29 *French (Sophomore).* 2 hrs. both terms.  
Select readings in Molière, Corneille, and Boileau. Contemporary authors, such as Pierre Loti, Cherbuliez, and Taine. Conversation.
- 30 *French (Freshman).* 3 hrs. both terms.  
Contes Contemporains, L'Ami Fritz, Le Roi des Montagnes, and extracts from Victor Hugo, Sandeau, Karr, and George Sand. Conversation.
- 31 *Spanish.* 3 hrs. both terms.  
Knapp's Grammar and Modern Readings. Extracts from the Spanish Gil Blas and Don Quixote. Conversation and composition.
- 32 *Italian.* 3 hrs. both terms.  
Grandgent's Grammar, Cuore by De Amicis, Checchi's Italia dal 1815 ad oggi. Extracts from Petrarch, Ariosto, and Tasso.
- 33 *Dante.* 1 hr. both terms.  
Critical reading of select portions of the *Inferno*, *Purgatorio*, and *Paradiso*.

M. BERGERON :—

- 34 *French.* 2 hrs. both terms.  
Étude analytique des poètes français contemporains. Origines du romantisme. Histoire de la langue française. Recherches philologiques et historiques sur les gallicismes et les proverbes. Ce cours sera fait en français.
- 36 *French.* 2 hrs. both terms.  
Rapid reading in contemporary authors, such as Erckmann-Chatrian, Halévy, Mérimée, About. French conversation to acquire a correct pronunciation, current vocabulary, and to fix grammatical forms, syntax, and idioms. Designed only for Juniors and Seniors who pursued German the first two years.
- 37 *French (Sophomore).* 2 hrs. both terms  
*The same as course 29.*
- 38 *French (Freshman).* 3 hrs. both terms.  
*The same as course 30.*

## Mr. GOODRICH :—

- 39 *German Drama.* 3 hrs. both terms.  
Critical study of selected plays from Lessing, Goethe, and Schiller.
- 40 *Goethe.* 2 hrs. both terms.  
During the first term selections from Goethe's shorter poems are read. The poet's life down to the death of Schiller, in 1805, is studied, with the aid of selected readings, papers, and lectures. During the second term, Faust, Part i.
- 41 *Elementary German (Freshman).* 3 hrs. both terms.
- 42 *Second-year German (Sophomore).* 2 hrs. both terms.

## Mr. GRUENER :—

- 43 *German Prose.* 2 hrs. both terms.  
For rapid reading. Modern fiction. Selections from biography, history, and critical essays.
- 44 *German Composition.* 2 hrs. both terms.  
Devoted to practice in writing and speaking. Translations into German of narrative prose ; selections from history and literature. This course is conducted in German.
- 45 *Middle-High German.* 2 hrs. both terms.  
Hartmann. Nibelungenlied. Selected poems of Walther von der Vogelweide. Lectures and papers.

## Mr. DAHL :—

- 45a *Norwegian and Danish.* 1 hr. both terms.  
Rapid reading of selections from Bjørnson, Ibsen, Kielland, and Hans Christian Andersen, together with a general survey of the literature. At the opening of the second term a beginners' class will be opened.
- 45b *Swedish.* 1 hr. both terms.  
Reading of selections from Tegnér's poems and the works of modern authors.

## Professor BEERS :—

- 46 *18th-Century Literature.* 2 hrs. both terms.  
The course embraces selections from the following authors :  
Swift, Addison, Prior, Gay, Pope, Johnson, Burke, Goldsmith,

Sheridan, Fielding, Sterne, Collins, Gray, Cowper, and Burns. Thackeray's "English Humorists," Leslie Stephen's "History of English Thought," and the histories of 18th-century literature by T. S. Perry and Edmund Gosse are used as reference books.

47 *19th-Century Literature.* 2 hrs. both terms.

The principal English authors from Wordsworth to Swinburne (except Tennyson and Browning) are studied, partly by critical readings in the class-room, partly by outside assigned reading in connection with the English loan library, and partly through lectures and reference books.

48 *Milton and his Contemporaries.* 1 hr. both terms.

The course includes all Milton's English poems, the Epitaphium Damonis, portions of the Elegiarum Liber, and the selections from the prose tracts included in the "Parchment" edition; together with passages from the lyrical poets of Milton's time, and from the works of Clarendon, Browne, Taylor, Fuller, and Izaak Walton.

Professor Cook :—

49 *History of English Literature.* 2 hrs. 1st term.

An outline of the subject, on the basis of Brooke's Primer, Taine, Morley's First Sketch, and tenBrink's Early English Literature, supplemented by outside reading. Frequent preparation of brief papers on assigned topics.

50 *Advanced Old and Middle English.* [Sen.] 1 hr. both terms.

Grammatical and exegetical study of selected Old and Middle English texts. Open to students who have a good reading knowledge of German and an elementary acquaintance with Old English, and who wish to make a closer study of the language in its earlier stages.

51 *Old and Middle English.* 2 hrs. both terms.

An elementary course in the beginnings and earlier development of the English language and literature. Examination of the various elements of the modern English vocabulary, and especially of the Saxon or Germanic element. Translation of Old English prose. Philological interpretation of selected passages by the instructor. Sweet's Anglo-Saxon Reader; tenBrink's Early English Literature; Cook's Sievers' Old English Grammar; Bede's History; Pauli's Life of King Alfred. Reading of selections from Chaucer and other Middle English writers for linguistic purposes.

- 52 *English Essayists.* 2 hrs. 2d term.  
Study of the opinions and style of selected prose authors, ranging from the Elizabethan era to the present. Frequent preparation of brief papers on assigned topics.
- 53 *Shakespeare.* 2 hrs. 2d term.  
Critical study of a few selected plays. The Leopold edition of Shakespeare; Moulton's Shakespeare as a Dramatic Artist; Schmidt's Shakespeare Lexicon; annotated editions of single plays, etc. Frequent preparation of brief papers on assigned topics.
- 54 *Bacon.* 2 hrs. 1st term.  
Bacon's Essays and Advancement of Learning. Study through paraphrase and amplification. Bacon's character, opinions, and style. His place in Elizabethan literature. Frequent preparation of brief papers on assigned topics.
- 55 *Tennyson.* 2 hrs. 1st term.  
Critical study of selected poems. Tennyson's theory of life, literary art, and place among the poets of this century. Comparative readings in other authors, and frequent preparation of brief papers on assigned topics.
- 56 *Browning.* 2 hrs. 2d term.  
Critical study of selected poems. Browning's theory of life, literary art, and place among the poets of this century. Comparative readings in other authors, and frequent preparation of brief papers on assigned topics.

Assistant Professor McLAUGHLIN :—

- 57 *English Dramatists.* 2 hrs. both terms.  
Rapid reading, with general literary exegesis, of plays of Marlowe, Jonson, Beaumont and Fletcher, Webster, Ford, Dryden, Congreve, Goldsmith, Sheridan, Shelley, Byron, Robert Browning.
- 58 *Medieval Literature.* 1 hr. both terms.  
Lectures on the general characteristics of later medieval literature, especially in the romances, with particular reference to its relation to English literature. Discussions of English authors who have treated medieval subjects, particularly Chaucer, Matthew Arnold, Swinburne, William Morris, and Tennyson. The reading by the class will consist of selections from these and other poets, Malory's *Morte d'Arthur* and possibly other translations, and a certain amount of outside work in available originals, either in old English, medieval Latin, old French, or middle-high German, at individual option.

## V. ANCIENT LANGUAGES AND LINGUISTICS

Professor WM. R. HARPER and Dr. ROBERT F. HARPER :—

- 59 *Hebrew (first course).* 4 hrs. 1st term.  
 Genesis i-viii, and with these chapters (a) the grammatical principles of the language; (b) acquisition of a vocabulary; (c) translation of English into Hebrew.
- 60 *Hebrew (second course).* 2 hrs. 2d term.  
 Deuteronomy, critical translation with (a) review of grammar; (b) study of accents; (c) special exercises in Hebrew prose composition; (d) principles of Hebrew poetry.
- 61 *Hebrew (third course).* 2 hrs. 2d term.  
 Hexateuchal analysis, including (a) translation and comparison of the several documents of which the Hexateuch is composed; (b) examination of the grounds on which the analysis rests; together with (c) special study of the principal points of syntax.
- 62 *Arabic.* 2 hrs. both terms.  
 Arabic version of Genesis, chapters i-iii, and with these chapters the principles of the language (Lansing's Arabic Manual); selected portions of the Kuran; lectures on contents and arrangement of the Kuran.
- 63 *Assyrian.* 2 hrs. both terms.  
 Principles of the language; selections in cuneiform text, Lyon's Assyrian Manual, Delitzsch's *Lesestücke* and *Assyrische Grammatik*; lectures on Assyrian History and Literature.
- 64 *Old Testament Legal Literature.* 2 hrs. both terms.  
 This course is one of the three covering in a general way the entire history and literature of the Old Testament. The other courses take up the "prophetical" literature and the "wisdom" literature. The work may be classified under the following divisions:
1. *General Semitic History and Literature*, including (1) the general study of the history and literature of the Semitic nations; (2) Semitic civilization, its characteristics and its relation to other civilizations; (3) in particular, the origin of the Hebrew nation,—its relation to other Semitic nations.
  2. *Early Hebrew Traditions and Institutions*, including (1) an examination of the traditions found in the earlier Hebrew literature: the account of the creation, the garden of Eden, the story of the fall, the beginnings of civilization, the deluge account, the

longevity of the patriarchs, the confusion of tongues, the earlier patriarchal stories, the residence of Israel in Egypt, the Egyptian plagues, the exodus, the wandering in the wilderness, the conquest of Canaan; (2) an examination of the more important institutions found among the Hebrews: the Sabbath, marriage, sacrifice, circumcision, clean and unclean, feasts, etc.

3. *Hebrew Legislation*, including a study of (1) the present form of this legislation, whether it is preserved in one code or three; (2) the contents as classified according to the prevailing element in each case, whether the hygienic, the social, the civil, or the religious; (3) the relation of this literature to other divisions of Hebrew literature; (4) the connection of this legislation with Israelitish history in its different periods; (5) a comparison of the principles underlying this system with those of other ancient legal systems.

4. *The Hebrew State*, including the study of (1) the various outward forms of government under which Israel lived; (2) the relation of the Israelitish theocracy to the government of other ancient nations; (3) the influence of the principles underlying the Israelitish theocracy upon the origin and early history of the government of the United States.

#### Professor WHITNEY :—

#### 65 *Sanskrit.* 4 hrs. both terms.

A first-year's instruction in Sanskrit, beginning with the instructor's Sanskrit Grammar, and passing on to Lanman's Reader. A sketch of Sanskrit literature is given in connection with the exercises during the latter part of the year.

#### 66 *Linguistics.* 1 hr. 2d term.

A series of exercises—mingled lecture, recitation, and discussion—on the leading topics of the general study of language, following and using as text-book the instructor's *Life and Growth of Language*, is given if a class of six or more is formed.

#### Professor PECK :—

#### 67 *Early Latin.* 1 hr. both terms.

Study of inscriptions and of the ante-classical literature, based on Allen's *Remnants of early Latin* and Smith's *Latin Selections*.

This course is largely philological and critical, and is open only to those who have done superior work in Latin.

- 68 *Latin Poetry.* 2 hrs. both terms.  
Development of poetic forms and styles in Latin, with studies in Lucretius, Horace (Epistles), Tibullus, and Persius.
- 69 *Latin Prose.* 2 hrs. both terms.  
History of prose composition among the Romans, with illustrative readings from Cicero, Livy, Quintilian (Book x), and Tacitus (Annals).

Professor H. P. WRIGHT :—

- 70 *Juvenal and Martial.* 2 hrs. 1st term.  
Satires i, iii, iv, v, vii, viii, with selections from Martial, with special reference to a study of the private life of the Romans.

Mr. ABBOTT :—

- 71 *Plautus.* 2 hrs. 1st term.  
The Aulularia and the Pseudolus.
- 72 *Cicero's Letters.* 2 hrs. 2d term.  
Chiefly non-political letters, to members of Cicero's family, and to his intimate friends.

Professor SEYMOUR :—

- 73 *Homer.* 2 hrs. 1st term.  
Introduction to the critical study of Homer; interpretation of the first books of the Iliad.
- 74 *The Phaedo of Plato.* 2 hrs. 1st term.  
Introduction to the literary and philosophical study of Plato.
- 75 *Theocritus.* 3 hrs. 1st term.
- 76 *Homer.* 2 hrs. 2d term.  
Rapid reading of the principal parts of the Iliad.
- 77 *The Nicomachean Ethics of Aristotle.* 2 hrs. 2d term.
- 78 *Greek Inscriptions.* 2 hrs. 2d term.  
Exercises in the interpretation of Greek Inscriptions based upon Cauer's *Delectus Inscriptionum Graecarum*, as an introduction to the historical study of Greek forms.
- 79 *The Frogs of Aristophanes.* 1 hr. 2d term.

## Mr. KITCHEL:—

- 80 *Plato.* 1 hr. both terms.  
The Apology, Crito, and Ion.

## Assistant Professor GOODELL:—

- 81 *Attic Orators.* 2 hrs. 1st term.  
Selections from the orators before Demosthenes (as much as possible of Jebb's edition) will be read with especial reference to the development of oratory and of Attic prose style.
- 82 *Athenian Political and Legal Institutions.* 2 hrs. 2d term.  
An introduction to the subject. The private orations of Demosthenes are made the basis of the work; these are supplemented by lectures and private reading. It is intended that the class shall gain a clear general idea of the Athenian state, with some notion of the Athenian courts and principles of law. A reading knowledge of German will be useful, but is not required.

## Assistant Professor REYNOLDS:—

- 83 *Euripides.* 2 hrs. 1st term.  
The Bacchae and Iphigenia in Aulis. This course includes a systematic study of Euripides as a poet, with lectures on scenic antiquities, metres, and mythology.
- 84 *Euripides.* 2 hrs. 2d term.  
Heracles, Hippolytus, Ion, and Supplices. (See note to the preceding course.)

## Mr. HUNT:—

- 85 *Introduction to the Study of Classical Archaeology.* 1 hr. both terms.  
Collignon's Manual of Greek Archaeology is taken as the text-book and made the basis for a more general study of the subject. Students are referred to works like Baumeister's Denkmäler, Mrs. Mitchell's History of Greek Art, Perrot and Chipiez's History of Ancient Art, and Percy Gardner's Types of Greek Coins. The work of the class is illustrated further by the plaster casts of the School of Fine Arts and the University's collection of ancient coins, as well as by numerous photographs.



## VI. NATURAL AND PHYSICAL SCIENCE

Professor J. D. DANA :—

- 86 *Geology*. [Seniors.] 2 hrs. 1st term.  
Geology—physiographic, lithological, and historical. Dana's Manual.
- 87 *Geology*. [Seniors.] 2 hrs. 2d term.  
Remainder of the historical Geology, and dynamical Geology.
- 88 *Advanced Geology*. [Seniors.] 2 hrs. both terms.  
In connection with the study of the Manual, the reading and discussion of original memoirs and other publications treating of the topics in the course, together with work in the field. Excursions. Open only to those who have taken the first course in Geology, or its equivalent, and have also some knowledge of Chemistry and Mineralogy.

Professor EATON :—

- 89 *Botany*. [Juniors.] 2 hrs. 2d term.  
An elementary course in the botany of flowering plants. Recitations from Gray's Structural Botany from January till about May 1st, followed by practical work in examining and identifying the ordinary native plants of the vicinity. The class is limited to twenty students.
- 90 *Pteridology and Bryology*. [Seniors.] 2 hrs. 1st term.  
This course consists of practical work in the preparation and microscopic examination of vegetable tissues, with especial reference to the structure of ferns and mosses. Limited to six who have taken course 89.

Professor A. W. WRIGHT :—

- 91 *Physics*. [Seniors.] 2 hrs. both terms.  
Two exercises each week, chiefly practical work in the Sloane Physical Laboratory, with measurements, especially in heat, light, and electricity, each exercise occupying two hours. As introductory to the laboratory practice, the exercises, during a portion of the first term, consist of recitations or discussions upon the theory and methods of physical measurements, the use of instruments, and other special topics. Laboratory facilities are also freely accorded to students of the course at other times than those of the

stated exercises. Kohlrausch's Physical Measurements; Glazebrook and Shaw's Practical Physics; Stewart and Gee's Practical Physics; Ayrton's Practical Electricity; Kempe's Handbook of Electrical Testing; Everett's Units and Physical Constants, etc.

The successful prosecution of this course requires proficiency in the Physics and Mathematics of the previous years, the lack of which may be made a reason for exclusion from the course.

Professor E. S. DANA :—

92 *Mineralogy and Crystallography.* 2 hrs. both terms.

Practical study of mineral species by means of blowpipe analysis and other methods; mathematical study of crystals by the methods of analytical and spherical trigonometry, as also of their optical properties. The time is divided about equally between the two parts of the subject; the practical exercises may be prolonged to cover two hours when but little outside preparation is called for.

93 *Descriptive Mineralogy.* [Seniors.] 1 hr. both terms.

Advanced course in the study of mineral species for those who have already gone through course 92.

94 *Petrography.* [Seniors.] 1 hr. both terms.

The study of rocks, chiefly by the microscope, involving also a preliminary study of the form and optical characters of the minerals common in crystallized rocks. The exercise may be extended over two hours. Limited to those who have taken course 92.

Professor GOOCH :—

[Courses 99, 100, 101, with course 95, constitute a connected and continuous line of study in Biology, extending through the Junior and Senior years.]

95 *Experimental Inorganic Chemistry.* 3 hrs. both terms.

Chiefly practical exercises in the laboratory, supplemented by recitations and lectures. This course is preliminary to the other courses in Chemistry and to the course in Biology.

96 *Experimental Organic Chemistry.* 2 hrs. both terms.

An introduction to the study of the compounds of carbon. The work is chiefly in the laboratory. Open to those who have previously taken course 95.

97 *Analytical Chemistry (first course).* 3 hrs. both terms.

Laboratory practice in the processes of ordinary qualitative analysis and the principles of quantitative analysis by volumetric methods. Open to those who have taken course 95.

98 *Analytical Chemistry (second course).* 3 hrs. both terms.

Laboratory practice in the methods of gravimetric quantitative analysis. Open to those who take also course 97, or have taken it previously.

In courses 95-98 two hours in the laboratory count as the equivalent of a single recitation hour; and in all a special laboratory fee is charged.

## Professor CHITTENDEN :—

99 *Physiology.* [Juniors.] 1 hr. both terms.

Huxley's Lessons in Elementary Physiology, with occasional lectures and illustrative experiments. This course is designed as a preparation for courses 101 and 100 of Senior year, and is open only to those intending to take these courses.

100 *Physiological Chemistry.* [Seniors.] 4 hrs. 2d term.

Four exercises a week, of a minimum of two hours each, in the laboratory of physiological chemistry. This forms a continuation of course 101 and is open only to those who have taken courses 95 and 99 in Junior year. The time is devoted mainly to a study of the chemistry of the connective, contractile and nerve tissues, of the chemical processes of salivary, gastric and pancreatic digestions, and so far as the time allows, of other subjects connected with the physiology of nutrition and the chemistry of the excretions.

A short course of lectures by Professor S. I. Smith on Embryology, and a somewhat longer one by Professor Chittenden on Experimental Toxicology, are open to students in the above course.

A laboratory fee is charged for courses 100 and 101. The student must in addition bear the expense of gas, flasks, etc., which should not exceed ten dollars.

## Professor S. I. SMITH :—

101 *Elementary Anatomy and Histology.* [Sen.] 4 hrs. 1st term.

Laboratory work based on Huxley and Martin's Practical Biology. Four exercises, of a minimum of two hours each. The time is devoted principally to dissections of the frog, and work

with the microscope on the lower plants and animals, and in vertebrate histology, with special reference to the rudiments of biology and the elements of the morphology of animal tissues. The student is required to make microscopical preparations, keep careful records of his work, and pass frequent examinations. Open only to those who have taken courses 95 and 99 in Junior year, and to be followed by course 100, 2d term.

## VII. MATHEMATICS

[It is strongly recommended by all the instructors in the mathematical department that those who intend to study advanced mathematics or the natural and physical sciences, or who expect to become engineers, should take course 102 in the Calculus in Junior year.]

Professor NEWTON :—

- 102 *Calculus.* 3 hrs. both terms.
- 103 *Integral Calculus and Mechanics.* [Sen.] 3 hrs. both terms.  
Mean values and probability; differential equations; analytical statics and dynamics.  
Open only to those who have taken course 102.
- 104 *Shooting Stars and Meteors.* [Seniors.] 1 hr. both terms.  
The mathematical theories of these bodies, and the treatment of the observations of them.

Professor GIBBS :—

- 105 *Vector Analysis.* [Seniors.] 2 hrs. 1st term.  
Elementary course, in which the simpler problems of geometry, kinematics, and mechanics are treated by vector methods. The matter taught is not entirely unlike that usually given in courses in Quaternions, but the method followed is in some respects nearer to Grassmann's than to Hamilton's.
- 106 *Vector Analysis.* [Seniors.] 2 hrs. 2d term.  
Advanced course, including differentiation with respect to position in space, the theory of the potential and allied functions, and that of linear vector functions. This course is especially designed for an introduction to the study of mathematical physics, and is open only to those who have taken the preceding.

- 107 *Computation of Orbits.* [Seniors.] 2 hrs. 2d term.  
Vector methods are used; the course is open only to those who take course 105.

Professor RICHARDS :—

- 108 *Higher Trigonometry.* 2 hrs. 1st term.  
Exponential and logarithmic series; DeMoivre's theorem; theory of proportional parts; applications. Calculus desirable but not required.

Professor PHILLIPS :—

- 109 *Plane Analytical Geometry.* 2 hrs. both terms.  
Continuation of Graphic Algebra and the Analytical Geometry of Sophomore year with special reference to facility in plotting equations. Selected chapters in Casey's Conic Sections and Frost's Curve Tracing will form the basis of instruction.
- 110 *Solid Analytical Geometry.* [Seniors.] 1 hr. both terms.  
Open only to those who have completed course 109.
- 111 *Descriptive Geometry.* 1 hr. both terms.  
The principles of orthographic projection, shades and shadows, and linear perspective. Attention is given both to the mathematical treatment and to the mechanical drawing. The course is intended specially for those who expect to study engineering or architecture.

Assistant Professor BEEBE :—

- 112 *Geodesy.* 2 hrs. 1st term.  
Field work with the surveyor's transit; measurements and computations for a secondary triangulation from a base line of the U. S. Coast Survey; reductions to center; distribution of errors; measurement of a base of verification. Recitations from Gillespie's Surveying.
- 113 *Practical Astronomy.* 2 hrs. 2d term.  
Development of formulæ relating to azimuth, latitude, and time; observations with the theodolite, transit instrument, and sidereal clock; numerical computations for the reduction of the observations. Recitations from Loomis' Practical Astronomy. Open only to those who have taken course 112.

- 114 *Elements of Astronomy*. [Juniors.] 1 hr. both terms.  
The course pursued is essentially that presented in the abridged edition of Young's *Astronomy*. Facilities are given for the study of the constellations and the use of the telescope.
- 115 *Descriptive Astronomy (Advanced)*. 1 hr. both terms.  
Consecutive with course 114. To be given the following year.

Mr. DUTCHER :—

- 116 *Modern Geometry*. 2 hrs. 2d term.  
Casey's *Sequel to Euclid* furnishes the basis of instruction in the earlier part of the course, and in the latter part, the chapters on trilinear coördinates in Casey's *Analytic Geometry*.

### VIII. MUSIC

Professor STÖCKEL :—

- 117 *Harmony*. 2 hrs. both terms.  
Acoustics. Intervals. Chords with inversions and combinations. Modulation. Non-harmonic notes. Suspension. Accompaniment of a melody.
- 118 *Counterpoint, Canon, Fugue*. 2 hrs. both terms.  
Counterpoint of the I, II, III and IV orders. Counterpoint: single, double, triple, quadruple. Imitation, Canon, Fugue.
- 119 *Forms*. 1 hr. both terms.  
Motive, Phrase, Period, Part, Song. Rondo. Sonata. Orchestral Forms.  
Lectures will be given on the *History of Music, sacred and secular. Aesthetics. Analysis*: Oratorio, Opera, Chamber-music, Symphony. *Biography*: Palestrina, Bach, Handel, Haydn, Mozart, Beethoven, Mendelssohn, Wagner.

Members of any department in the University may be admitted to courses 117, 118, 119. The lectures are open also to friends and scholars of music, who may not be matriculated. Admittance to course 117 is without examination. Admittance to course 118, after passing a satisfactory examination in the work of course 117. Admittance to course 119, after passing a satisfactory examination in the work of course 118.

[A Board of Examiners, composed of the professor of music and two selected musicians, will examine candidates for certificates in organ-playing and the conduct of the musical part of the church service.]

The following statements are added, to explain the general aim and scope of the instruction in various leading subjects of study.

**GREEK**—During the first two years, the student reads five or six books of Homer, dramas of Aeschylus, Sophocles, and Euripides, one or two comedies of Aristophanes, selections from the history of Herodotus, one or more orations of Demosthenes, Isocrates, or Lysias, the Apology or some dialogue of Plato; occasionally, the Symposium of Xenophon or selected dialogues of Lucian. These works are selected with a view to making the student familiar with the leading branches of Greek literature, and the most interesting phases of Greek life and thought. The most important grammatical principles are reviewed in Freshman year; in Sophomore year, grammatical questions are discussed rarely, except as they are necessary for the interpretation and illustration of the author's meaning. In reading the works of the poets, less attention is paid to linguistic and grammatical points than to their literary quality, to the structure of the poems, to poetic words, forms, arrangement of words, rhythm, and constructions; but the growth and development of the language are discussed as well as the development of the literature. In reading the orators and historians, the connection of thought and of events is made prominent. Greek prose composition is practised only so far as to aid the student in reading Greek authors, and to quicken his perception of nice distinctions in the order and choice of words and constructions.

In the optional courses of the Junior and Senior years, the student has the opportunity of reading the works of the lyric poets, other Greek dramas, and other dialogues of Plato, parts of Aristotle (his Politics and Ethics), and the idyls of Theocritus; as well as of studying Greek inscriptions, and of doing more critical work on the Homeric poems than is suited to the first College year; and of learning the Modern Greek language. The history of Greek philosophy is studied. Students may also attend Professor Hoppin's fully illustrated lectures on Greek art, in the Art School.

**LATIN** is continued as a required study till the close of the Sophomore year, when it is intended that the student shall have gained clear conceptions of the genius of the language and its relations to other ancient and to modern tongues, a good knowledge of the characteristics of Latin literature and the essential facts of Roman history, and some appreciation of the position of Rome in the history of civilization. That subsequent reading of the language may be more easy and more exact, due attention is given in the early part of the course to forms, constructions, and idioms. From term to term the study of the literature

is made more prominent, and the particular texts are treated as means for the study of the public and private life of the Romans. Instruction is given mainly by recitations, but such work is supplemented by occasional lectures by the instructors and by conferences on papers presented by the pupils. In connection with the minute study of the authors, considerable time is given to oral and written reading at sight, and to composition in Latin.

For Juniors and Seniors who desire to continue their Latin studies, parallel courses are offered by different instructors, with different ends in view and by different methods. The characteristic of a course may be, *e. g.*, literature, or history, or philology, or antiquities, or the speaking and writing of Latin; and the methods of preparation and the classroom treatment vary accordingly. Topics suggested by the nature of the courses, or by individual tastes and intentions, are assigned to students, and papers thus prepared are discussed before the class. Lectures and the rapid reading of large amounts of text are more frequent than in the prescribed courses. The connection of Latin with English is emphasized, and written translations are from time to time required and criticised with reference both to their faithful reproduction of the Latin thought and their idiomatic English. German annotated editions are often used, not only for their intrinsic helpfulness, but also to encourage the practical use of that language. Students who give evidence of unusual capacity and attainments may be admitted to membership of graduate classes.

**MATHEMATICS**—In Geometry the exercises consist in recitations from the text-book, the original demonstration of theorems, and applications of the principles to the solution of numerical problems.

After the student has gained facility in the use of trigonometrical tables, the principles of Plane Trigonometry are applied to the problems of Mensuration, Surveying, and Navigation, and those of Spherical Trigonometry to the elementary problems relating to the celestial sphere.

In Algebra the elementary principles of the theory of equations are illustrated graphically, and the student is exercised in the numerical solution of equations of the higher degrees and the graphical representation of the relations of quantities.

In Analytical Geometry the student is carried through the elementary properties of the lines and surfaces of the second degree, and is introduced to the theory of map-projection.

These are studies of the Freshman and Sophomore years, and together with the elements of Astronomy which are pursued in Sophomore year, are regarded as essential parts of a liberal education.

In the Junior and Senior years opportunity is given in the elective courses to obtain a wider knowledge of Analytical Geometry and



Trigonometry with their applications to Geodesy and Astronomy. A course is provided in Junior year in Differential and Integral Calculus, designed for such as expect to make a serious study of any department of pure or applied mathematics.

In Senior year advanced subjects in the Calculus and the elements of Analytical Mechanics form one line of study.

An elementary and an advanced course are provided in what is called Vector Analysis. The object of these courses is to introduce the student to the methods of multiple algebra in geometry, mechanics, and physics. The matter taught is not entirely unlike that usually given in courses in Quaternions, but the method followed is in some respects nearer to Grassmann's than to Hamilton's. The elementary course is confined to the simplest algebraic relations of vectors. The advanced course includes differentiations with respect to position in space, and the theory of linear vector functions.

Students who show special aptitudes are exercised in the working up of subjects which require the use of the library and more prolonged investigation, than the daily exercises of the class-room. Such work begins in Freshman year. There is a considerable collection of models which are used to assist the imagination in the various branches of study.

ENGLISH—The required work of Sophomore year has been described on page 35.

Courses in Old and Middle English are offered to Juniors and Seniors, an elementary course to both classes alike, and one more advanced to Seniors only. While both these courses are recommended to those who aim at more than a merely superficial acquaintance with our own tongue, the latter is especially designed for those who intend to teach English, and who desire a somewhat critical knowledge of the language and literature in the earlier stages of their development.

A brief survey of the whole field of the History of English Literature is attempted in the Autumn term, the aim being to give such a view of the mutual relations of the principal authors and epochs as may enable the student to plan courses of English reading and study with intelligence and judgment. Instruction in this course is given by means of Brooke's Primer of English Literature, supplemented by topical study pursued through the medium of papers prepared by the members of the class, which, after being read aloud, are made the subject of discussion. The course in English Essayists is devoted not only to familiarizing the student with the thought of the author read, but also to some examination of the qualities of English prose style as exemplified by these authors.

Opportunity is afforded for the critical study of a number of individual authors in as many different courses. Among those studied

during the present year are two Elizabethans, Bacon and Shakespeare, and two eminent contemporaries of this century, Tennyson and Browning. Stress is laid in these courses upon the distinctive personality and workmanship of the writer in question, but an endeavor is also made to promote the conception of literary masterpieces as wholes, as works of art subject to the laws of inner unity and harmony, and not merely as texts for verbal study or collateral illustration.

A course in the literature of the eighteenth century, open during the current year to Seniors and Juniors, embraces selections from Swift, Addison, Prior, Gay, Pope, Johnson, Burke, Goldsmith, Sheridan, Fielding, Sterne, Collins, Gray, Cowper, and Burns. These authors are studied partly by critical readings in the class-room, and partly by outside assigned reading for examination. Gosse's "Eighteenth Century Literature" is used as a text-book, and lectures are introduced from time to time.

The same method is pursued in another course, also open to Seniors and Juniors, in the literature of the nineteenth century, including selections from Wordsworth, Coleridge, DeQuincey, Landor, Scott, Byron, Keats, Shelley, Carlyle, Ruskin, George Eliot, Thackeray, Matthew Arnold, Clough, Rossetti, Wm. Morris, and Swinburne. Oliphant's "Literary History of England in the Nineteenth Century" is used as a text-book in the earlier part of this course.

A course in Milton and his contemporaries, open to Seniors and Juniors, consists of readings in all Milton's English poems, in parts of the Latin poems, and in the prose selections included in the "Parchement" edition; together with passages from contemporary lyrical poets like Herbert, Herrick, Marvell, etc., and from the writings of Clarendon, Browne, Taylor, Fuller, and Izaak Walton.

A course of lectures upon the main characteristics of medieval literature is associated with readings in English poets, especially Chaucer, Tennyson, Arnold, and William Morris. In connection with these authors, treatments of medieval subjects, representative selections from Latin, Middle-High German, Old French and Old English originals are recommended to the class, and a certain amount of this reading is required from each student. A running criticism of the modern poems read is associated with the lectures on their medieval antecedents.

A course in the English drama begins with Marlowe, and includes the principal contemporaries and immediate successors of Shakespeare, the Restoration dramatists as represented by Dryden and Congreve, and a few later dramatic authors, especially Browning. This course is designed as a training in criticism, and a larger amount of reading is accomplished than would be possible if the study were more technical. The class-work, after a brief written examination upon the lesson, consists of informal discussions of the literary topics suggested.

Use is made in all these courses of the English loan library, and students are referred to books reserved for the purpose in the University library.

English composition is prescribed through the whole of the Sophomore and Junior years. In the former, during the first term compositions are written as class-room exercises; sketches, descriptions, brief narratives, and the lighter forms of the essay are preferred to pieces on more difficult or bookish themes. During the rest of the year five essays of a more elaborate character are written; and in the Junior year two essays in each term. Each student's work is criticised at least once during every term; in cases where special instruction is needed, as well as in all cases where it is desired by the writer, each composition is discussed in private interviews. Literary practice is also encouraged by three public exhibitions during the course; two at the end of the Senior year, the third about the middle of the Junior year. Those competing for the last receive special instruction whenever they desire it.

GERMAN—The student may pursue the study of German during each of the four years of his College course, if he so elect. While the study may be begun at the opening of any of the four years, it is strongly urged that the elementary work be done as early in the College course as possible, in case the student proposes to take up the language at all.

The courses of work for the successive years may be outlined as follows. During the first year the work consists of German grammar, translation of easy English phrases, sentences, and stories into German, and of easy German prose into English. Constant sight-translation is used as a means for developing and strengthening the student's vocabulary and for freeing him from dependence upon the lexicon and from the word-by-word methods which its use encourages. Especial care also is devoted to pronunciation. The work of the second year continues and extends that of the first year, taking up the translation of German prose, narrative, critical, and historical, composition, and sight-translation. Throughout the two years the aim in reading German is to cover as much ground as possible—from 500 pages upwards—in the belief that thereby the student will acquire more command of the language than when a smaller amount is read with rigid attention to grammatical details. It is expected that at the end of the second year the student will be able to use the language in his work in other branches of study. Those, therefore, who are studying German solely with this end in view may perhaps abandon the language at this point; but no student should begin the language unless he expects to devote at least two years to its study.

For the remaining years the elective courses vary from year to year, but opportunity is given for the critical study of some of the master-

pieces of German literature and for the study of periods in its history. Those who so elect may also have opportunity to take up the earlier German literature and to study the historic development of the grammar of the language.

German readings are given by the instructors outside the regular College work, and advanced classes in composition formed, where German alone is spoken. German is constantly read aloud in the class-room, and all efforts, both in the class-room and in private, are made to improve the student's pronunciation and to help him to acquire some facility in expressing his ideas in German. But it is not a leading aim in the instruction in German to enable the student to converse in that language. Training in the ordinary conversational idiom may be had more profitably elsewhere and cannot form any considerable part of the class-room work. The student may acquire the language as a tool for use in other departments of study, and may come in contact with the best works of German literature, studying their form and contents, and the lives and environment of their authors; fluency in conversation must be acquired where the conditions are more fitted to the object which they are to effect.

FRENCH—This course may extend through the entire four years, involving the study of the leading epochs of the language and literature from their inception to the present; embracing especially, with reference to English origins, the Norman dialect of the Old French as exhibited in the *Chanson de Roland*, the *Roman de Rou*, and the *Fabliaux* of Marie de France; in the xv. and xvi. centuries the works of Villon, Marot, Rabelais, and Montaigne, as representatives; the drama from the earliest *Mystères*, *Farces*, *Soties*, to Garnier, Corneille, Molière, and Racine; in satire and criticism, Boileau; dwelling particularly on the foreign and natural influences that moulded the language till it assumed its actual form. Attention throughout the earlier years is given to composition in French as the best method for training the attention, the memory, and the judgment, and the oral use of the language is insisted on for the course in the Classical and Old French periods. Instruction is given by recitation, and lectures in French will be read on the history of the language and literature, on which written French examinations will be required.

PHYSICS—The required course in Physics extends through the year with three exercises weekly. The general design of the course is to make the student acquainted with the fundamental principles of the science, to enable him to understand something of the methods of experiment and reasoning by which physical laws have been established, and to give him an insight into the degree of accuracy demanded in

physical work. The subject of Electricity is treated at somewhat greater length than the other branches, and is fully illustrated by experimental lectures; in this direction the recent equipment of the Sloane Laboratory makes the department especially strong. During the Senior year there is an opportunity for those students desiring to avail themselves of it, to go forward with practical laboratory work, as is described in the list of elective courses.

**CHEMISTRY**—The study of this subject is optional. Four courses in experimental descriptive chemistry (inorganic and organic) and analytical chemistry are open to undergraduates. Instruction in these courses is given in practical exercises in the laboratory and demonstrations in the lecture room. Frequent examinations to emphasize the more essential points, as well as to test the progress of the student, are an important feature of the plan of work. It is the aim of these courses to teach the facts and principles of chemistry by the inductive and experimental method. Students sufficiently advanced have the opportunity to undertake the solution of problems demanding original thought and investigation.

**POLITICAL SCIENCE AND LAW**—The instruction in the elements of Political Economy is intended to give familiarity with the method and doctrines of the so-called "orthodox" economists, as the proper introduction which the student should have to the science, and as the basis for whatever may be offered later. Text-books are used with set lessons, constant examinations, both written and oral, discussions, and illustrations. The courses are arranged in the belief that the student will gain more under a classification which is adjusted to meet differences of interest and capacity. Those who take Political Economy in Junior year have an opportunity in Senior year to become acquainted with the history of the science and the controversies now going on in it, and to study more thoroughly special topics. In the course on Anthropology they are also offered an opportunity to become acquainted with the new sciences whose investigations are so important for the whole field of social science.

The course in law treats of municipal and international law as parts of a liberal education. The object is to study civil institutions, both in their theory and in their positive form. The instruction is elementary, dealing with the fundamental facts and principles which underlie the civil polity of the American State, and is intended to give the student a correct knowledge of such essential facts about the life of the State and its accepted doctrines, as every educated man should possess, as well as to lead up to the professional study of law.

**MENTAL AND MORAL SCIENCE, AND PHILOSOPHY**—The courses in this branch of study begin in Junior year, and continue until graduation. During Junior year, three hours per week of class-room work in Logic, Psychology, Ethics, and the Evidences of Religion, and during Senior year two hours per week of class-room work in Philosophy, are required of every student; the remainder of the work in these and kindred subjects is elective.

**LOGIC**—In this subject there is an elementary required course, occupying three hours a week during the first part of Junior year. In this course attention is centered on the principles of correct definition and valid proof. A large part of the work of the students consists in the oral and written discussion of examples of definition and of deductive and inductive argument, the examples being partly in the condensed form usual in text-books on Logic, partly in the form of somewhat extended quotations from various authors on subjects of general interest. At the same time, and although the minutiae of the traditional Logic are ignored, pains is taken to secure the disciplinary value of the study as a training in abstract thinking and abstract statement.

**PSYCHOLOGY**—Required work in this subject begins in Junior year and comprises about fifteen weeks of instruction in all. Although the earlier part of the course is taught with constant use of a text-book, upon which daily recitations are exacted, considerable time from the first is taken by the teacher in oral instructions, critical or supplementary of the text. One or more formal lectures on selected topics in Psychology are given each week. During the latter part of the course, after the pupils have acquired some facility in the general subject, the instruction is chiefly by lectures upon the basis of a text-book. The course is completed by lectures discussing the doctrine of the mind's nature, and its relation to the body. The course in Physiological Psychology extends through the entire year and is taught by lectures and recitations; it is illustrated by constant use of models, charts, histological preparations, apparatus for mixing color-sensations, etc. It is designed to go briefly over the whole ground of the modern experimental and physiological study of mental phenomena; especially as regards reflex and automatic cerebral action, the localizing of cerebral function, the quality and quantity of sensation, psychometry, and the physical basis of the higher faculties. It may be elected either in Junior year as preparatory, or in Senior year as supplementary, to the required course in introspective Psychology.

**HISTORY OF PHILOSOPHY**—The study of this subject is confined to Senior year. In the study of the History of Greek Philosophy the prin-

cipal emphasis is laid upon Plato and Aristotle, and upon the post-Aristotelian Schools, as illustrating the permanent and most interesting problems of Philosophy.

The course in Modern Philosophy extends through the whole of the Senior year. The subject is taught both by recitations from the text-book, with accompanying remarks from the teacher, and by lectures. Effort is made to secure from each pupil the careful reading of at least one work of some prominent philosopher of the period considered in the class-room. Special emphasis is laid upon the philosophy of Kant. It is a constant aim to trace the development of modern speculative thought so as to throw light upon the principal questions in debate among present writers in philosophy.

**PHILOSOPHY**—In addition to the study of Philosophy as connected with the problems of rational Psychology, and as illustrated and enforced by the history of the development of Philosophy, the works of one or more of the leading authors are read and discussed, with such students as take the elective courses opened for this purpose. In this way the more general studies in Metaphysics and Ethics are supplemented by special information regarding selected subjects and writers.

**MORAL SCIENCE**, as a study, is intimately connected with the instruction in Psychology and Philosophy, as its foundations are discovered in the constitution of the human soul, and its method and fundamental relations are justified and enforced by those principles which are essential to all scientific thinking. In the department of Moral Science and of Practical Ethics, a somewhat thorough course is required of the entire Junior class, as an essential element of a thorough education and an important condition for practical usefulness. This general course is supplemented by special classes in scientific and practical Ethics, and particularly in the history and criticism of ethical theories, which are maintained through the year. In connection with these courses, a full course of lectures is delivered upon the nature, evidence, and authority of Christian Theism and the Christian History, particularly as related to a sound ethical theory of man and his destiny. This course of lectures is attended by all the members of the Junior class, and a thorough examination enforced.

#### SPECIAL HONORS

Special Honors are conferred at the end of Senior year.

One-year honors may be taken in any one of the following groups of studies; two-year honors in any one of groups 2, 4-7 :

(1). Philosophy. (2). Political Science, History, and Law. (3). English. (4). Ancient Languages. (5). Modern Languages (exclusive of English). (6). Natural and Physical Science. (7). Mathematics.

A candidate for a one-year honor must announce his intention to the Dean on or before December 1 of Senior year; a candidate for a two-year honor must report to the same officer by the same date of Junior year.

A candidate for a one-year honor must pursue with distinction in his Senior\* year, and a candidate for a two-year honor in his Junior and Senior years, courses (whether prescribed or elective) amounting to an average of at least six hours per week in one of the specified groups. For a two-year honor the work must be so distributed that an average of at least four hours per week is taken in Junior year.

A candidate for either honor must present a meritorious thesis before June 1, of his Senior year.

[In the department of Modern Languages, elementary German will not be reckoned for honors. In the department of Mathematics, no student will be considered a candidate for honors, unless he has taken the Calculus.]

#### TERMS AND VACATIONS

THE PUBLIC COMMENCEMENT is held on the last Wednesday in June. The first term begins thirteen weeks from the day after Commencement-day and continues twelve weeks; the second term begins on the Tuesday after the first Thursday in January and continues until Commencement-day, with a Spring Recess — of eight days — including Easter. (See Calendar, p. 6.) The Exercises of each term begin with prayers in the Chapel.

#### PUBLIC WORSHIP

PRAYERS are attended in the Battell Chapel, with reading of the Scriptures and singing, every week-day at 8.10

\* But in group 3, work done in Junior year in English is accepted in place of an equivalent amount of work done in Senior year.



a. m., at which service the attendance of the students is required.

PUBLIC WORSHIP is held in the Chapel on Sundays, at which all the students are required to attend, except such as have special permission to attend the worship of other denominations, to which their parents belong. Such permission can be obtained only on presenting to the Dean a written request therefor from the parent or guardian.

DWIGHT HALL, a building erected on the College square, at the expense of Elbert B. Monroe, Esq., of Southport, Connecticut, and presented to the Corporation in 1886, is designed to furnish an attractive center for the religious life of the students of all the Departments, especially through the organized work of the Young Men's Christian Association of the University.

#### LIBRARIES AND READING ROOMS

The Library of the University, containing about 150,000 volumes, is open every week-day to all the students for consultation and for the drawing of books; in a separate part of the building is the Linonian and Brothers Library, a collection of over 30,000 volumes in general literature, specially selected for the use of the undergraduate students.

The College Reading Room, containing the principal newspapers and periodicals, American and foreign, is open to the students every day and evening without charge. There is also a reading room and a select library (partly for circulation and partly for reference) in Dwight Hall.

#### GYMNASIUM

THE GYMNASIUM is designed to provide all the students with opportunities for exercise, under the advice of a Director, who is a regularly educated physician. Members of the Freshman class are required, during a part of the year, to take exercise in light gymnastics under the instruction of the Director; and any student may enter the class of general gymnastics, which is under the

Director's immediate care. A thorough physical examination and measurement of each student is made yearly by the Director, and a record of these results is kept as a basis of advice as to exercise and regimen; an examination of this record shows that the standard of health of the average student improves during his College course.

Members of the other Departments of the University may avail themselves of the privileges of the Gymnasium (including the advice of the Director, the use of the apparatus, bowling alleys, and shower-baths), on the payment to the janitor, in advance, of a small fee.

#### EXPENSES

THE TREASURER'S BILLS are made out and delivered to the students three times a year, viz: at the beginning of each term or half-term, at which times they are payable. If not paid within two weeks of the time they are issued, interest is charged from the date of the bills, and the student is liable to be prohibited from reciting. Drafts on Boston, New York, and Philadelphia are received at par.

The annual charge (payable each term in advance) for tuition is \$125, and the charge for incidentals (including ordinary repairs, expenses of public rooms, gymnasium, libraries, and reading room) is \$30. An additional charge of \$18 is made in the last bill of the Senior year, to cover the expenses of graduation.

ABSENCE ON LEAVE—A student who is absent from College on account of sickness, or for any other cause, and retains his place in his class, pays full tuition during such absence; such payment is required before the student can be admitted to examination.

BOARD is obtained at prices varying from three and a half to eight dollars a week. The average price is under five dollars and a half.

ROOMS—There are in the College buildings nearly two hundred and fifty rooms occupied by students, at prices

varying (according to location) from fifty cents to eight dollars per week. These rooms are not furnished, and the rates charged do not include heat or light.

Farnam Hall (built in 1869-70) is named in commemoration of Henry Farnam, Esq., of New Haven, who bore the chief part of the expense of its erection; Durfee Hall (built in 1870-71) commemorates in like manner the generosity of Mr. Bradford M. C. Durfee, of Fall River, Mass.; Lawrance Hall (built in 1885-86) owes its name to a gift for this purpose from Mrs. Francis C. Lawrance, of New York City, in memory of her son, Thomas Garner Lawrance, of the Class of 1884, who died during his Senior year in College.

Students living out of College are not allowed to room in any building in which a family does not reside, except by special permission of the Faculty.

A few rooms in North College and North Middle College (rented at prices ranging from \$1 to \$1.50 per week), and a few others in Durfee, Farnam, and Lawrance Halls (at higher prices), are reserved each year for members of the Freshman class; these rooms are all heated by steam, for which an additional charge of from twenty-five to thirty dollars per year is made.

Applications for rooms from those who expect to enter the Freshman class in this College in September, 1891, should be sent to Professor Henry P. Wright (the locating officer), not later than June 1. As no single rooms are reserved, every application should be signed by two persons who wish to occupy a room together.

Members of the Junior, Sophomore, and Freshman classes, occupying any of the College rooms, may retain the same rooms for another academic year, by making application in writing to the locating officer, on or before Saturday, May 23, 1891. Rooms not reserved will then be offered to the classes in order: choices will be allotted to the Junior class on Tuesday, May 26, and to the Sophomore class on Thursday, May 28.

## PRICES PER WEEK OF ROOMS IN COLLEGE FOR 1891

When a room is occupied by two persons, each occupant will be charged with one-half the price named in this schedule. *Where a single person occupies alone a room having two bedrooms, each of which is directly lighted by an outside window, he will be charged ten per cent. in addition to the price set upon the room.*

- \$0.50.—66, 67, 82 North Middle; 188, 189 Old Chapel.  
 \$0.75.—2, 3, 18 South; 33, 49 South Middle; 65, 68, 81, 84 North Middle; 98, 99, 114 North.  
 \$1.00.—1, 4, 17, 20 South; 34, 50 South Middle; 79, 95 North Middle; 97, 100, 113, 116 North; 190, 191 Old Chapel.  
 \$1.25.—46, 47, 62, 63 South Middle; 71, 75, 78, 87, 91, 94 North Middle.  
 \$1.50.—14, 15, 30, 31 South; 38, 39, 43, 54, 55, 59 South Middle; 74, 77, 80, 90, 93, 96 North Middle.  
 \$1.75.—7, 11, 22, 23, 26, 27, 29, 32 South; 45, 48, 61, 64 South Middle; 72, 76, 88, 92 North Middle; 103, 106, 107, 110, 111, 119, 122, 123, 126, 127 North.  
 \$2.00.—6, 10, 13, 16, 24, 25, 28 South; 37, 40, 41, 44, 53, 56, 57, 60 South Middle; 69, 73, 85 North Middle; 101, 104, 105, 108, 109, 112, 125, 128 North; 133, 137, 141, 160, 167, 175 Farnam; 186, 187, 192, 193 Old Chapel.  
 \$2.50.—8, 9, 12 South; 120, 124 North.  
 \$3.00.—182, 183 Lyceum.  
 \$3.50.—142, 143, 158, 159, 161, 162, 176, 177 Farnam; 250, 251, 260, 261, 270, 271, 281 Lawrance.  
 \$4.00.—130, 131, 138, 139, 144, 145, 146, 147, 154, 156, 157, 164, 165, 172, 173 Farnam; 180 Lyceum.  
 \$4.50.—134, 135, 140, 148, 149, 151, 152, 168, 169, 174 Farnam; 208, 215, 216, 223, 224, 231, 232, 239 Durfee; 248, 249, 258, 259, 268, 269, 279 Lawrance.  
 \$5.00.—129, 163 Farnam; 202, 209, 210, 217, 218, 225, 226, 233 Durfee; 241, 242, 246, 247, 252, 253, 256, 257, 262, 263, 266, 272, 273, 277, 282 Lawrance.  
 \$5.50.—206, 214, 221, 222, 229, 230, 237 Durfee.  
 \$6.00.—132, 166 Farnam; 204, 211, 212, 219, 220, 227, 228, 235 Durfee; 245, 254, 255, 264, 265, 274 Lawrance.  
 \$7.00.—178, 179 Lyceum; 201, 203, 234, 238 Durfee; 280 Lawrance.  
 \$8.00.—278 Lawrance.



Assistance will be withdrawn from students who incur serious College censure, or who fail to maintain a reputable scholarship.

THE MORGAN FUND, bequeathed by the late Henry T. Morgan, of New York City, has been set apart by the Corporation, with the provision that the income shall be divided into scholarships (at present thirty-seven in number, yielding \$115 each), to be assigned by the Faculty for the benefit of indigent and deserving students.

THE MARETT FUND, now amounting to one hundred and thirty thousand dollars, which was established by the will of Philip Marett, Esq., of New Haven, in 1869, and was received in 1889, has been appropriated for beneficiary scholarships, in aid of needy and deserving students.

THE HARMER FOUNDATION OF SCHOLARSHIPS, the proceeds of a bequest in 1854 from Thomas Harmer Johns (Yale College 1818), of Canandaigua, N. Y., comprises five scholarships, each yielding at least one hundred dollars a year, to be given to deserving students of small means.

THE LYON SCHOLARSHIP FUND, of forty-four hundred dollars, given in 1868-72 by Mr. Morris W. Lyon (Yale College 1846), of New York City, benefits four scholars, selected for their worth and need by the founder or the Faculty.

THE LUCIUS HOTCHKISS FUND, of ten thousand dollars, the bequest of Lucius Hotchkiss, Esq., of New Haven, in 1881, comprises four scholarships, the income of which is given to indigent and deserving students.

THE LEAVENWORTH SCHOLARSHIP FUND, now amounting to over nine thousand dollars, was established in 1882 by the late Hon. Elias W. Leavenworth (Yale College 1824), of Syracuse, N. Y., with the primary object of defraying in part the expenses of the education of students of good character and promise, bearing the surname of Leavenworth.

THE HOLMES SCHOLARSHIPS, one in each class in College, founded by Samuel Holmes, Esq., of Montclair, New Jersey, are filled upon the nomination of the Board of Agents of the Bronson Library Fund of Waterbury by

students from the towns of Waterbury, Wolcott, Prospect, and Middlebury, Connecticut, who receive each the income of one thousand dollars *per annum*.

There are thirty other Scholarship Funds, most of them of one thousand dollars, the income of which may be given to such students as shall be selected by the founders or the Faculty. In this number are included Scholarships named in commemoration of William Allen, Charles Atwater, Mills Bordwell, William S. Charnley, William E. Dodge, Thomas H. and Luther Fuller, Sereno Gaylord, Joel Hawes, John C. Holley, Charles L. Ives, Elisha C. Jones, William A. Macy, John S. Mitchell, Peter Parker, John M. Raymond, and John Spaulding.

There are also opportunities for students in need of aid to render service to the College as monitors, etc.; in this way about nine hundred dollars is disbursed annually. And in general it may be said that the other means of self-help at the command of students are sufficient to enable many of those who have spare time to provide for the larger part of their College expenses.

By the liberality of Mr. William L. Andrews, of New York City, and as a memorial of his son, Loring W. Andrews, a member of the class of 1883, a well furnished library has been established, containing text-books and works of reference, to be loaned gratuitously to those students who have need to avoid the expense of purchasing such books. Permission to use this library can be obtained from the President.

#### FELLOWSHIPS AND SCHOLARSHIPS

THE DOUGLAS FELLOWSHIP, with an income of six hundred dollars a year, was founded in 1873, by Mrs. Samuel Miller, of New Haven, and named in memory of her brothers, the Rev. Sutherland Douglas (Y. C. 1822) and George H. Douglas (Y. C. 1828). The incumbent, who must be a recent graduate of this Department, pursuing non-professional studies in New Haven, is elected annually, but no person shall hold the Fellowship for more than three years.

THE SOLDIERS' MEMORIAL FELLOWSHIP, with an annual income of six hundred dollars, was founded in 1875 by Mrs. Theodosia D. Wheeler, of New Haven, in honor of the alumni who fell in battle as Union soldiers, in the war of 1861-1865, and in special remembrance of William Wheeler, of the Class of 1855. The incumbent must be, at the time of his election, a graduate of this Department, of not more than three years' standing. He shall pursue non-professional studies, and may hold the Fellowship for a period not exceeding five years. In selecting the incumbent, the President and Professors are to give preference to one who has shown special proficiency in Greek; and for the further prosecution of Greek study, the Fellow may be allowed to spend a part or the whole of the time of his incumbency in Athens, in connection with the American School of Classical Studies, instead of in New Haven.

THE SILLIMAN FELLOWSHIP, founded in memory of Professor Benjamin Silliman, Professor of Chemistry, Mineralogy, and Geology in Yale College from 1802 until his death in 1864, has an annual income of six hundred dollars, and is awarded to a graduate of this Department who has given evidence of proficiency and promise in some branch of physical science. The incumbent is elected annually, but no person shall hold the Fellowship for more than three years.

THE JOHN SLOANE FELLOWSHIP in Physics, established in 1889 by the gift of ten thousand dollars from John Sloane, Esq., of New York City, is awarded annually by the Faculty to a graduate of this Department who has shown marked proficiency in the study of Physics, and gives promise of success in the prosecution and application thereof. The incumbent shall reside in New Haven for at least thirty-six weeks in each academic year, pursuing a course of study in Physics and the related branches of science, and acting as an assistant in the Sloane Physical Laboratory; he may be re-elected, but shall not hold the Fellowship for more than three consecutive years.



THE BERKELEY SCHOLARSHIP, founded in 1733 by the Rev. George Berkeley, Dean of Derry, and afterwards Bishop of Cloyne, and yielding over sixty dollars a year, is awarded to the student in each Senior class who passes the best examination (which must be a creditable one) in the Greek Testament (Pauline Epistles), the first book of Thucydides, the first six books of Homer's Iliad, Cicero's Tusculan Questions, Tacitus (except the Annals), and Horace; provided he remain in New Haven as a graduate, one, two, or three years.

THE CLARK SCHOLARSHIP, being the income of a fund of two thousand dollars, given for this purpose by Mr. Sheldon Clark, of Oxford, Connecticut, is awarded in each Senior class to the applicant who has attained the highest rank in the studies of the course; provided he remain in New Haven for one year or two years immediately after graduation, pursuing a course of study (not professional) under the direction of the Faculty.

THE BRISTED SCHOLARSHIP, founded in 1848 by Mr. Charles Astor Bristed (Yale College 1839), of New York City, and yielding about one hundred and twenty dollars a year, is awarded, whenever there is a vacancy, to the student in the Sophomore or Junior class who passes the best examination in the classics and mathematics. The successful candidate receives the annuity (forfeiting one-third in case of non-residence) until the end of the third year after graduation.

THE FOOTE SCHOLARSHIPS, founded in 1872 by a bequest of Harry W. Foote (Yale College 1866), of New Haven, and yielding five hundred dollars a year, are awarded to graduates of this Department, selected by the Corporation, who remain in New Haven for one or more years pursuing studies in the graduate courses of the Department of Philosophy and the Arts.

THE LARNED SCHOLARSHIPS, three in number, each having a fund of seven thousand dollars, were founded in 1877 by the bequest of Mrs. Irene Larned, of New Haven, and were augmented in 1888 by the bequest of Mrs. Urania B.

Humphrey, of Norfolk, Connecticut. One scholarship is awarded in each Senior class; the incumbent must reside in New Haven, pursuing a course of advanced study under the direction of the Faculty.

THE MACY SCHOLARSHIP, being the income of a fund of ten thousand dollars, derived from a bequest of the Rev. William A. Macy (Yale College 1844), of Shanghai, China, who died in 1859, is awarded, whenever there may be a vacancy, to a recent graduate of distinguished scholarship, who may hold it for a term of three years. He shall reside in New Haven, pursuing a course of non-professional study, and shall at the close of each College year present a meritorious thesis in evidence of his work during the previous year.

THE WOOLSEY SCHOLARSHIPS, each having the income of a fund of one thousand dollars, the gift of President Woolsey, in 1846-48, are awarded in successive years, one to the student in each Freshman class, who passes the best examination in Latin Composition (excellence in which is essential to success), in the Greek of the year, and in the solution of algebraic problems. The successful candidate receives the annuity, during the four years of his College course, provided he maintains a good standing in character and scholarship, and in the Junior year makes himself acquainted with the Differential and Integral Calculus. The student who stands second at this examination receives for one year the income of the HURLBUT SCHOLARSHIP FUND, of one thousand dollars (established by Henry A. Hurlbut, Esq., of New York City, in 1858-9); and the student who stands third, the income for one year of the THIRD FRESHMAN SCHOLARSHIP FUND, of the same amount, given by Charles M. Runk, Esq., of Allentown, Pennsylvania, in 1864.

THE W. W. DEFORREST SCHOLARSHIP, being the income of a fund of two thousand dollars, bequeathed in 1867 by William Wheeler DeForest, of New York City, is awarded to a student in each Senior class who has attained distinction in the study of French while in College, provided

he pursue for the year after graduation a further course of study in the modern languages, especially French, Spanish, Portuguese, or Italian, under the direction of the Faculty.

THE SCOTT HURTT SCHOLARSHIP was established in 1889 in memory of Scott Hurtt, of the class of 1878, Yale College, by his classmates and friends. The income of a fund of five thousand dollars is assigned in June of each year to a member of the Sophomore class, who is selected by the Faculty on the ground of approved scholarship; one-half of the income will be paid to the incumbent during his Junior year, and one-half during his Senior year, provided he continues to be in need of this assistance.

THE THOMAS GLASBY WATERMAN FUND, of forty thousand dollars, was received in 1890 from the estate of Thomas G. Waterman (Yale College 1886). The income is given to not more than three scholars, of manly character and limited means, who have distinguished themselves in their studies and give promise of achieving distinction in the line of work which they have chosen; the incumbents are elected annually by the Faculty from the Senior or Junior class, or from graduates of the Department of not more than two years' standing.

#### PREMIUMS

THE DEFOREST PRIZE, founded in 1823 by David C. DeForest, of New Haven, and consisting of a gold medal, of the value of one hundred dollars, is awarded "to that scholar of the Senior class who shall write and pronounce an English Oration in the best manner," the President and Professors being judges.

TOWNSEND PREMIUMS, five in number, of twelve dollars each, founded in 1843 by the gift of Isaac H. Townsend (Yale College 1822), of New Haven, are awarded in each Senior class for the best specimens of English Composition; all compositions receiving Premiums must be read in public.

THE DEFOREST MATHEMATICAL PRIZES were established by the late Dr. John DeForest (Yale College 1826), and were augmented by his son, the late E. L. DeForest (Yale College 1854), of Watertown, Connecticut. A first prize of one hundred dollars, and three second prizes of fifty dollars each, are offered to the Senior class for worthy solutions of problems in pure and applied Mathematics. This year about sixty dollars from the same source will be offered in prizes to the Junior, Sophomore, and Freshman classes respectively, for the solution of problems.

WINTHROP PRIZES, the income of a fund of five thousand dollars given in 1871 by Buchanan Winthrop, Esq. (Yale College 1862), of New York City, are annually offered to the Junior class "for the most thorough acquaintance with the Greek and Latin poets," particular attention being paid to elegance of scholarship and appreciation of the spirit of the poetry, as shown at an examination during the latter half of the second term. The first prize is two hundred dollars, and the second prize is the balance of the income for the year.

The subjects for the examination in the class of 1892 are as follows: in Greek, the Iphigenia among the Taurians, Iphigenia in Aulis, and Electra of Euripides, and Idylls i-iii, vi-viii, x, xi, xv-xvii, of Theocritus; in Latin, Lucretius, Book v, the second Book of the Epistles of Horace, and Book i of Lucan's Pharsalia.

THE HENRY JAMES TENEYCK PRIZES, the income of a fund of twenty-six hundred dollars, established in 1888 by the Kingsley Trust Association in memory of Henry James TenEyck (Yale College 1879), are awarded to the successful competitors at the Junior Exhibition, in the second term of each year. The competition is limited to eight speakers chosen from the higher grades of the Junior appointment list.

THE C. WYLLYS BETTS PRIZE, established in 1890 by the Phelps Association, in memory of the late C. Wyllys Betts, Esq., of New York City, a graduate of Yale College in the class of 1867, is offered to the Sophomore class

for excellence in English Composition. The prize, being the income of a fund of one thousand dollars, is awarded annually to that member of the class who shall have exhibited the most meritorious work in the required compositions of the year and in a special essay on a prescribed subject.

COLLEGE PREMIUMS are given each year in the Sophomore class, for English Composition, and for Declamation.

THE SCOTT PRIZE for excellence in German is offered to the Senior class, and the SCOTT PRIZE for excellence in French to the Junior class; these are of the value of thirty dollars each, and are given in books. The prizes were founded by the bequest of Henry W. Scott (Yale College 1863), of Philadelphia, who died in 1871.

THE LUCIUS F. ROBINSON LATIN PRIZES, from the income of a fund of five thousand dollars given in 1887 by the daughters of the late Lucius F. Robinson (Yale College 1843), of Hartford, will be awarded the present year to students showing special proficiency in Latin:—one series of prizes (of fifty, thirty, and twenty dollars, respectively) being open to members of the Senior and Junior classes who have taken three hours per week in Latin electives; and a second series, of the same amounts, to members of the Sophomore class.

BERKELEY PREMIUMS for excellence in Latin Composition are offered to the Freshman class near the end of each College year, from the surplus income of the Berkeley Scholarship Fund.

THE HUGH CHAMBERLAIN GREEK PRIZE, being the income of one thousand dollars given for this purpose, in 1886, by the Hon. Daniel H. Chamberlain (Yale College 1862), of New York City, is awarded annually to that member of the Freshman class who has passed the best examination in the Greek required for admission to College.

Candidates for this Prize will be required to pass the whole examination in Greek the year of their admission

to College, even though they may have been accepted already in some of the Greek subjects at a preliminary examination.

#### DEGREES

The degree of BACHELOR OF ARTS is conferred by the Corporation on those persons who have completed the course of academical exercises, as appointed by law, and have been approved on examination at the end of the course as candidates for the same. Candidates are required to pay their dues to the Treasurer as early as the Saturday before Commencement.

For the degrees of Master of Arts and Doctor of Philosophy, see page 112.

# SHEFFIELD SCIENTIFIC SCHOOL

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OLIVER C. FARRINGTON, M.S., *Assistant in Biology*

ERWIN S. SPERRY, PH.B., *Assistant in Analytical Chemistry*

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ERNEST ELLSWORTH SMITH, PH.B., *Assistant in Physiological Chemistry*

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HARVEY M. LAWSON, PH.B., *Assistant in Chemistry*

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THE SHEFFIELD SCIENTIFIC SCHOOL is devoted to instruction and researches in the mathematical, physical, and natural sciences, with reference to the promotion and diffusion of science, and also to the preparation of young men for such pursuits as require special proficiency in these departments of learning. Instruction is also given in French, German, English, History, Political Economy, and Constitutional Law.

The school, begun in 1847, and reorganized upon a more extensive scale in 1860, received in 1863, by the act of the Connecticut Legislature, the national grant for the promotion of scientific education under the Congressional enactment of July, 1862.

The name was conferred upon it by the Corporation of the University as a recognition of the late Joseph E. Sheffield, Esq., whose gifts to it at various times constitute its chief property and endowment.

OFFICERS AND INSTRUCTORS—Upon the Governing Board, consisting of the professors permanently attached to the School, devolve its internal management and the greater part of the instruction. In addition to these and the instructors employed during the current year, Professor Niemeyer, of the Yale School of the Fine Arts, gives instruction in Elementary and Free-hand Drawing.



THE BOARD OF STATE VISITORS consists of the Governor, and Lieutenant-Governor, three Senior Senators, and the Secretary of the Board of Education.

The instruction is intended for two classes of students:—

I.—Graduates of this and other Colleges or Universities, and other persons qualified for advanced or special study.

II.—Undergraduates who desire a training, chiefly mathematical and scientific, in part linguistic and literary, for higher scientific studies, or for other occupations to which such training is suited.

#### INSTRUCTION FOR GRADUATE AND SPECIAL STUDENTS

Persons who have gone through undergraduate courses of study, here or elsewhere, may avail themselves of the facilities of the School for more special professional training in the physical sciences and their applications, gaining in one, two, or three years the degree of BACHELOR OF PHILOSOPHY, or in two additional years of Engineering study, that of CIVIL ENGINEER or that of DYNAMIC or MECHANICAL ENGINEER.

Or, engaging in studies of a less exclusively technical character, they may become candidates for the degree of DOCTOR OF PHILOSOPHY, under the conditions stated on page 112. The instruction in such cases will be adapted to the particular needs and capacities of each student, and may be combined with that given by instructors in other departments.

SPECIAL STUDENTS—For the benefit of those who, being fully qualified, desire to pursue particular studies without reference to obtaining a degree, special or irregular students are received in most of the departments of the School; not, however, in the Select Course, nor in the Freshman Class. It should be distinctly understood that these opportunities are not offered to persons who are incompetent to go on with regular courses, but are designed to aid those who have received a sufficient preliminary education elsewhere to increase their proficiency in special branches.

## INSTRUCTION FOR UNDERGRADUATE STUDENTS

**TERMS OF ADMISSION**—Candidates must be not less than fifteen years of age, and must bring satisfactory testimonials of moral character from their former instructors or other responsible persons.

For admission to the Freshman Class the student must pass a thorough examination in the following subjects :

*English*—including grammar, spelling, and composition. In grammar, Whitney's Essentials of English Grammar, or an equivalent.

*History of the United States.*

*Geography.*

*Latin*—(1) Simple exercises in translating English into Latin, together with the elements of Latin Grammar. (2) Caesar—six books of the Gallic War, or their equivalent. (After September, 1891, there will be substituted for the six Books of Caesar, four books of Caesar's Gallic War and the first two books of Vergil's Aeneid, for which, without special application, no equivalent will be accepted.)

*Arithmetic*—Fundamental Operations, Least Common Multiple, Greatest Common Divisor, Common and Decimal Fractions, Denominate Numbers, including the Metric System of Weights and Measures; Percentages, including Interest, Discount, and Commission; Proportion, Extraction of the Square and Cube Roots.

*Algebra*—Fundamental Operations, Fractions, Equations of the First Degree, with one or several unknown quantities; Inequalities, Ratio and Proportion, Powers and Roots, including the theory of Exponents, the Binomial Formula for an Entire Exponent, and the transformation and Reduction of Radicals; Equations of the Second Degree, Progressions, Continued Fractions, Permutations and Combinations, the Doctrine of Limits, the Nature of Series, the Method of Indeterminate Coefficients, Fundamental Properties of Logarithms, Compound Interest and Annuities.

*Geometry*—Plane, Solid, and Spherical; including fundamental notions of Symmetry, and examples of Loci and Maxima and Minima of Plane Figures,—so much, for example, as is contained in Newcomb's Geometry, exclusive of the chapters on the Ellipse, Hyperbola, and Parabola.

*Trigonometry*—including the Analytical Theory of the Trigonometrical Functions, and the usual formulae; the Construction and Use of Trigonometrical Tables; and the Solution of Plane Triangles:—so much, for example, as is contained in the first six chapters of Newcomb's larger Trigonometry and in Arts. 75-78 of chapter viii, with the explanation of the first five tables in Newcomb's five-figure Logarith-

mic and Trigonometric Tables, which are furnished at the examinations in New Haven.

While no entrance examination is held in the *History of England*, candidates for admission are urgently advised to make themselves as familiar as possible with that subject, as a knowledge of it is essential to the most successful prosecution of some of the studies of the course.

Candidates will be allowed the option of passing on the above-named subjects in two successive years. In such cases they must present themselves for examination at the June examination of the first year in the following subjects or parts of subjects: *History of the United States, Geography, Arithmetic, Plane Geometry, and Algebra to Quadratic Equations.*

In order to have this preliminary examination counted, candidates must pass satisfactorily on four of the subjects; and notice of the intention to divide the examination must be given to Professor George J. Brush, Director of the School, on or before June 15.

In his preparation in GEOMETRY the candidate should, as far as practicable, have suitable exercises in proving simple theorems and in solving simple problems for himself. It is important, too, that he should be accustomed to the numerical application of geometric principles, and especially to the prompt recollection and use of the elementary formulae of mensuration. In TRIGONOMETRY he should be exercised in applying the usual formulae to a variety of simple reductions and transformations, including the solution of trigonometrical equations. Readiness and accuracy in trigonometrical calculations are also of prime importance to the candidate. If the use of logarithms is postponed in his preparation till Trigonometry is taken up (which is by no means necessary or advisable), he should then have abundant applications of them to all forms of calculation occurring in ordinary practice, as well as to those appearing in the solution of triangles. Finally, in all his calculations, he should study the art of neat and orderly arrangement.

In LATIN the student should have such continued training in parsing as shall make him thoroughly familiar with declensions and conjugations, and with the leading principles of syntax. To secure these results more effectually, the requirement has been adopted of simple exercises in translating English into Latin. As this course of exercises is designed solely as a preparation for reading, it should be begun at the

earliest stage of Latin study. A very large proportion of the deficiencies in the Latin examination for several years past has been due to the neglect of the suggestions of this paragraph, and to the attempt to read a Latin author with totally inadequate grammatical preparation.

The examinations for admission in 1891 take place at North Sheffield Hall, on Thursday, Friday, and Saturday, June 25, 26, 27 (beginning at 9 A. M. on Thursday); and on Tuesday and Wednesday, September 22, 23 (beginning at 9 A. M. on Tuesday).

In general, examinations for admission to the Freshman Class of the *next* year can be held only in June and September as specified; if in any case sufficient reason exists for an exception to this rule, a special fee (not exceeding fifty dollars) will be charged.

In 1891, examinations (for the Freshman Class only) will also be held in Concord and Exeter, N. H., in Andover, Mass., in Norwich, Conn., in New York City, in Albany, in Buffalo, in Chicago, in Cleveland, in Cincinnati, and in San Francisco (beginning on Thursday, June 25, at 9 A. M.), at places to be announced in local newspapers of the day previous. Candidates who propose to be present are requested to send their names to Professor George J. Brush, Director of the School, before June 15. A fee of five dollars will be charged for admission to the examinations outside of New Haven.

Candidates for advanced standing in the undergraduate classes are examined, in addition to their preparatory studies, in those already pursued by the class which they wish to enter. No one can be admitted as a candidate for a degree, later than at the beginning of the Senior year.

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COURSES OF INSTRUCTION, occupying three years, are arranged to suit the requirements of various classes of students. The first year's work is the same for all; for the last two years, the instruction is chiefly arranged in Special Courses. The Special Courses most distinctly marked out are the following:

- (a.) In Chemistry ;
- (b.) In Civil Engineering ;
- (c.) In Mechanical Engineering ;
- (d.) In Agriculture ;
- (e.) In Natural History ;
- (f.) In Biology preparatory to Medical studies ;
- (g.) In studies preparatory to Mining and Metallurgy ;
- (h.) In select studies preparatory to other higher studies.

The arrangement of studies is indicated in the annexed scheme. A fuller statement of the methods and character of the instruction will be found below, p. 93. Unless otherwise specified, the number of hours given means hours per week.

#### FRESHMAN YEAR: INTRODUCTORY TO ALL THE COURSES

FIRST TERM:—*German*—Whitney's Grammar and Reader, 3 hrs. *English*—Lounsbury's History of the English Language, 1 hr.; Exercises in composition. *Mathematics*—The Derivatives of Algebraic Functions; Fundamental Properties of Equations; Plane Analytical Geometry; 3 hrs. *Physics*—Recitations, 2 hrs., with experimental lectures, 2 hrs. *Chemistry*—Mixer's; Recitations, 2 hrs.; laboratory practice, 2 hrs. *Elementary Drawing*—Practical Lessons in the Art School, 3 hrs.

SECOND TERM:—*Language, Physics, and Chemistry*—as stated above. *Mathematics*—Plane Analytical Geometry, continued, 3 hrs. *Physical Geography*—8 Lectures during the term. *Botany*—Gray's Lessons, 3 hrs. *Drawing*—Principles of Orthographic Projection; Isometric Drawing with application to drawing from models and structures, and isometric construction of objects from their orthographic projections; Projections of Shadows; Shading and tinting; Sections; Developments and Intersections of Surfaces; 4 hrs.

For the Senior and Junior years, the students select for themselves one of the following Courses:

#### (a.) IN CHEMISTRY:

##### JUNIOR YEAR:

FIRST TERM:—*Organic Chemistry*—Lectures and Recitations, 2 hrs. *Qualitative Analysis*—Recitations, 2 hrs.; Laboratory Practice, 20 hrs.; Blowpipe Practice and Determinative Mineralogy, 4 hrs. *German*—3 hrs. *French*—3 hrs.

**SECOND TERM:**—*Organic Chemistry*—Lectures and Recitations, 2 hrs. *Quantitative Analysis*—Laboratory Practice, 20 hrs.; Recitations, 2 hrs. *Mineralogy*—Blowpipe Analysis and determination of species, 4 hrs.; Lectures in Crystallography and Descriptive Mineralogy, 2 hrs. *German*—3 hrs. *French*—3 hrs.

#### SENIOR YEAR :

**FIRST TERM:**—*Organic and Theoretical Chemistry*—Recitations and Lectures, 2 hrs. *Agricultural Chemistry*—Recitations (optional), 2 hrs. *Quantitative Analysis*—continued six weeks, 20 hrs. *Organic Chemistry*—Experimental work during the remainder of the term, 20 hrs. *Geology*—Dana's; Recitations, 3 hrs. *Zoology*—Lectures, 2 hrs. *French*—3 hrs. **SECOND TERM:**—*Theoretical Chemistry*—continued, 2 hrs. *Zoology*—continued, 2 hrs. *Agricultural Chemistry*—(optional), 2 hrs. *Analytical Chemistry*—Analysis of Minerals and Technical Products, 20 hrs. *Assaying*—(optional). *Metallurgy*—Lectures (optional). *Geology*—Dana's, 3 hrs. *Mineralogy*—(optional). *French*—3 hrs., during Winter half-term.

The Laboratory Practice of the second term of the Senior year may be devoted to such special branches of Analytical or Organic Chemistry as the student may desire, or to original investigations in connection with theses.

#### (b.) IN CIVIL ENGINEERING :

##### JUNIOR YEAR :

**FIRST TERM:**—*Mathematics*—Analytical Geometry of Three Dimensions; Elements of the Theory of Functions; Differential Calculus, with applications to Geometry and Analysis; solution of Numerical Equations; 6 hrs. *Surveying*—Field work, 16 hrs. till November. *Drawing*—Descriptive Geometry, 6 hrs. from November. *German*—3 hrs. *French*—3 hrs.

**SECOND TERM:**—*Mathematics*—Integral Calculus with applications to Geometry; Rational Mechanics; 6 hrs. *Drawing*—Descriptive Geometry, concluded; Topographical; Practice in working drawings; 6 hrs. *Surveying*—Topographical and Railroad curves, 16 hrs. *German*—3 hrs. *French*—3 hrs.

##### SENIOR YEAR :

**FIRST TERM:**—*Field Engineering*—Location of line of Railroad, setting out slope stakes, calculation of earthwork; Lectures on economic location; Office work; Henck's Field Book; 20 hrs. till November. *Civil Engineering*—Mechanics applied to Engineering; Resistance of

Materials; Bridges and Roofs; Stone Cutting with Graphical Problems; 8 hrs. *Geology*—Dana's, 3 hrs. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 8 hrs. *French*—3 hrs.

SECOND TERM:—*Civil Engineering*—Bridges and Roofs; Building Materials; Stability of Arches and Walls; Foundations; 6 hrs. *Dynamics*—Principles of Mechanism; Thermodynamics; Steam Engine; 6 hrs. *Hydraulics*—Hydraulics and Hydraulic Motors, 3 hrs. *Drawing*—Designing; Practical Problems; Specifications and Estimates; 12 hrs. *Spherical Trigonometry and Astronomy*—Practical Astronomy, with field work, 6 hrs. *Geology*—3 hrs. *French*—3 hrs. during Winter half-term.

### (c.) IN MECHANICAL ENGINEERING:

#### JUNIOR YEAR:

FIRST TERM—*Mathematics*—Analytical Geometry of Three Dimensions; Elements of the Theory of Functions; Differential Calculus, with applications to Geometry and Analysis; Solution of Numerical Equations; 6 hrs. *Surveying*—Theory and Practice; 3 hrs. until November 1st. *Principles of Mechanism*—Kinematics, 1 hr. *Shop Visiting*—Study of Machine Details and Tools; 3 hrs., beginning when Surveying ends. *Drawing*—Descriptive Geometry, 3 hrs. *German*—3 hrs. *French*—3 hrs.

SECOND TERM—*Mathematics*—Integral Calculus, with applications to Geometry; Rational Mechanics; 6 hrs. *Principles of Mechanism*—Applied Kinematics; Forms of Teeth of Wheels; Cams; Parallel Motions; Transmission of Power by Belts and Gearing, etc.; 1 hr. until Spring recess, then 2 hrs. *Shop Visiting*—continued, 3 hrs., until Spring recess. *Study of the Steam Engine*—2 hrs., after Spring recess. *Drawing*—Perspective and Shadows; Machine Elements; 3 hrs. *German*—3 hrs. *French*—3 hrs.

#### SENIOR YEAR:

FIRST TERM:—*Applied Mechanics*—Friction; Moment of Inertia; Centrifugal Force; Elasticity and Strength of Materials; Theory of Flexure and Torsion; Strains in Structures; Construction of Roofs and Bridges; Equilibrium and Pressure of Fluids; Theory of Flotation; Flows of Fluids in Pipes and Channels; Resistance of Ships; 9 hrs. *Machine Designing*—Practical Exercises in Designing Machine Details and Simple Machines, 12 hrs. *Study of the Steam Engine*—continued, 2 hrs. *Electricity* (optional)—Laboratory work, 3 hrs. *Visits of Inspection*—Examination of Machinery in operation; Reports of Visits. *French*—3 hrs.

SECOND TERM:—*Applied Mechanics*—continued; Hydrodynamics; Theory of Water-Wheels and Turbines; 6 hrs. *Thermodynamics*—3 hrs. *Study of the Steam Boiler*—2 hrs. *Electricity* (optional)—Laboratory work, 3 hrs.; Lectures, 2 hrs. *Machine Designing*—continued; advanced exercises in Preparing Designs and Working Drawings for Machinery; Estimates of Weight and Cost of Machinery; 12 hrs. *French*—3 hrs. during Winter half-term. *Thesis. Visits of inspection and Reports.*

#### (d.) IN AGRICULTURE:

##### JUNIOR YEAR:

The course is identical with that in Chemistry, except that in the second term lectures in Crystallography and Descriptive Mineralogy are omitted, and in the Spring half-term Botany is substituted for Determinative Mineralogy.

##### SENIOR YEAR:

FIRST TERM:—*Agriculture*—Recitations, 2 hrs. *Agricultural Chemistry*—Recitations, 2 hrs. *Geology*—Recitations, 3 hrs. *Zoology*—Lectures, 2 hrs. *Meteorology*—Lectures, 2 hrs. *Botany*—Laboratory Practice, 5 hrs. *French*—Recitations, 3 hrs.

SECOND TERM:—*Agriculture*—Recitations or Lectures, 2 hrs. *Agricultural Chemistry*—Recitations, 2 hrs. *Physiology*—Recitations or Lectures, 2 hrs. *Geology*—Recitations, 3 hrs. *Zoology*—continued, 2 hrs. *Heredity and Stock-Breeding*—Lectures, 2 hrs. during Winter half-term. *Sanitary Science and Public Health*—Lectures, 2 hrs. during Spring half-term. *French*—3 hrs. during Winter half-term.

#### (e.) IN NATURAL HISTORY:

Either Mineralogy, Zoology, or Botany, may be made the principal laboratory study, some attention in each case being directed to the other branches of Natural History.

##### JUNIOR YEAR:

FIRST TERM:—*Organic Chemistry*—Lectures and Recitations. *Qualitative Analysis*—Fresenius's; Laboratory Practice; Recitations. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. *Botany*—Gray's Manual, 3 hrs.; Laboratory Practice, 3 hrs. *German*—3 hrs. *French*—3 hrs.

SECOND TERM:—*Zoology*—Laboratory Practice, 6 to 12 hrs.; Recitations; Excursions (land and marine). *Botany*—Lectures; Laboratory



Practice in the identification of Phaenogamous Plants, 2 hrs. *Physiology*—Huxley's. *Embryology*—Lectures. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. Lectures in Crystallography and Descriptive Mineralogy, 2 hrs. *Physical Geography*—4 hrs. during Winter half-term. *German*—3 hrs. *French*—3 hrs.

#### SENIOR YEAR :

FIRST TERM :—*Geology*—Dana's, 3 hrs.; Excursions. *Zoology*—Laboratory Practice, 8 to 12 hrs.; Lectures, 2 hrs.; Recitations, 2 hrs.; Excursions. *Botany*—Laboratory Practice in the Preparation and Examination of Microscopical Specimens, illustrative of Stem-structure and of the Anatomy of the higher Cryptogamous Plants, 5 hrs.; Excursions. *Meteorology*—Lectures, 2 hrs. *French*—3 hrs.

SECOND TERM :—*Geology*—Dana's, 3 hrs. *Anatomy of Vertebrates*—Huxley's, 2 hrs. *Zoology*—Laboratory Practice, 8 to 12 hrs.; Recitations, 2 hrs.; Lectures, 2 hrs. *Botany*—Herbarium Studies, especially in the Cryptogamous Orders; Botanical Literature; Essays in Descriptive Botany. *Sanitary Science, Laws of Heredity, and Principles of Breeding*—Lectures. *French*—3 hrs. during Winter half-term.

Besides the regular course of recitations and lectures on structural and systematic Zoology and Botany, and on special subjects, students are taught in the laboratories to prepare, arrange, and identify collections, to make dissections, to pursue investigations, and when sufficiently advanced, to describe genera and species in the language of science. For these purposes, large collections in Zoology belonging to the University are available, as are also the private botanical collections of Professor Eaton.

#### (f.) IN BIOLOGY PREPARATORY TO MEDICAL STUDIES :

##### JUNIOR YEAR :

FIRST TERM :—*Organic Chemistry*—Lectures and Recitations, 2 hrs. *Qualitative Analysis*—Fresenius's; Laboratory Practice, 20 hrs.; Recitations, 2 hrs. *Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 4 hrs. *German*—3 hrs. *French*—3 hrs.

SECOND TERM :—*Comparative Anatomy and Histology*—Laboratory Practice, 18 hrs.; Lectures and Recitations, 1 hr. *Physiology*—Huxley's; Recitations, 2 hrs. *Embryology*—8 Lectures during the term. *Organic Chemistry*—continued, 2 hrs. *Mineralogy*—continued through Winter half-term, 4 hrs. *Botany*—Lectures; Laboratory Practice in the identification of Phaenogamous plants, 5 hrs. during Spring half-term. Excursions. *French*—3 hrs. *German*—3 hrs.

## SENIOR YEAR :

FIRST TERM:—*Physiological Chemistry*—Recitations and Lectures, 3 hrs.; Laboratory Practice, 13 hrs. *Organic and Theoretical Chemistry*—Lectures and Recitations, 2 hrs. *Zoology*—Lectures, 2 hrs. *Botany*—Laboratory Practice in the Preparation and Examination of Microscopical Specimens, illustrative of Stem-structure, and of the Anatomy of the higher Cryptogamous Plants, 5 hrs. *Geology*—Dana's, 3 hrs. *French*—3 hrs.

SECOND TERM:—*Physiological Chemistry and Experimental Toxicology*—Illustrative Lectures, Recitations, and Laboratory Practice, 27 hrs. *Geology*—Dana's, 3 hrs. *Zoology*—continued, 2 hrs. *Sanitary Science*—Lectures, 2 hrs. during Spring half-term. *Laws of Heredity and Principles of Breeding*—Lectures, 2 hrs. during Winter half-term. *French*—3 hrs. during Winter half-term.

## (g.) IN STUDIES PREPARATORY TO MINING AND METALLURGY :

Young men desiring to become Mining Engineers can pursue the regular Course in Civil or Mechanical Engineering, and at its close can spend a fourth year in the study of Metallurgical Chemistry, Mineralogy, etc.

## (h.) IN THE SELECT STUDIES PREPARATORY TO OTHER HIGHER STUDIES :

## JUNIOR YEAR :

FIRST TERM:—*Mineralogy*—Blowpipe Analysis and Determinative Mineralogy, 8 hrs. *Astronomy*—Recitations, 4 hrs. *English*—Early English, 2 hrs. *History*—Green's Short History of the English People, 2 hrs. *French*—3 hrs. *German*—3 hrs.

SECOND TERM:—*Mineralogy*—Lectures; Laboratory work, 8 hrs. during Winter half-term. *Botany*—Lectures; Laboratory Practice in the identification of Phaenogamous Plants, 2 hrs. during Spring half-term. *Physical Geography*—4 hrs. during Winter half-term; Recitations from Guyot and Lectures. *English*—Chaucer, Bacon, Shakspeare, 2 hrs. during Winter half-term, 3 hrs. during Spring half-term. *History*—Green's History, continued, 2 hrs. during Winter half-term, 4 hrs. during Spring half-term. *German*—3 hrs. *French*—3 hrs.

## SENIOR YEAR :

FIRST TERM:—*Geology*—Recitations, 3 hrs.; Excursions. *Zoology*—Lectures, 2 hrs. *English*—Shakspeare, 2 hrs. *Meteorology*—Lectures, 2 hrs. *Constitutional Law*—4 hrs. *French*—3 hrs.

SECOND TERM:—*Geology*—continued, 3 hrs. *Zoology*—continued, 2 hrs. during Winter half-term. *Meteorology*—Lectures, 2 hrs. during Winter half-term. *Sanitary Science*—Lectures, 2 hrs. during Winter half-term. *Political Economy*—Recitations, Exercises, and Lectures, 4 hrs. *English*—Shakspeare, Milton, Dryden, Pope, Gray, and later authors, 3 hrs. *French*—3 hrs. during Winter half-term.

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Exercises in English Composition are required during the entire course from all the students. The preparation of graduating theses is among the duties of the Senior year.

Lectures and instruction in Military Science are annually given to the Senior class by the Professor of Military Science and Tactics.

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The following account of the various subjects specified in the above scheme will explain the character and aim of the instruction.

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**ELEMENTARY CHEMISTRY**—The exercises in Elementary Chemistry consist in recitations from a text-book, and experiments by the students in the laboratory to illustrate statements in the book. The object of the laboratory work is to facilitate the study of the subject, and to train the students in manipulation and in the observation of chemical phenomena. Notes are required and students are questioned on the experiments. As a class is divided according to scholarship at the end of the fall term, opportunity is given to those who are most proficient to make rapid progress.

**ANALYTICAL CHEMISTRY**—*Qualitative and Quantitative*—This study is intended to serve two purposes. Analytical Chemistry is used by the advanced student as a means of investigation in scientific or technical researches. The beginner, however, derives from its study advantages of another kind. The knowledge of the properties of chemical compounds, the familiarity with chemical reactions gained by experience in the laboratory, and the development of the reasoning faculties by the application of this knowledge in analytical processes, enable the student to generalize and classify chemical phenomena and aid him to understand the more abstract theories of chemical philosophy. The method of instruction adopted is conformed to this view of the uses of the study. Text-books are used and recitations are required, but the more important part of both study and instruction is performed in the

laboratory. In order to solve the problems which are there constantly presented, the student, aided by books and instructors, must learn both principles and their applications. The student, throughout his course in Analytical Chemistry, spends four consecutive hours in laboratory work during five days of the week. The laboratory, however, is kept open seven hours daily for the benefit of graduate students and others who desire to devote more time to this study.

Qualitative Analysis forms a part of the courses in Chemistry, Biology, Agriculture, and Natural History. Quantitative Analysis is one of the more important studies of the Senior year in the Chemical Course. It is also included to some extent in the Agricultural Course.

ORGANIC CHEMISTRY is taught by informal lectures and experimental illustrations as well as by text-book drill, a lesson from Bernthsen's Organic Chemistry being given out for each instruction-hour. The class has two exercises weekly throughout the year. The course is adapted to give a fairly complete outline of the subject and some familiarity with the more important bodies and classes of bodies.

In addition to this, the Senior students in the Chemical Course are required to spend 20 hours per week during the latter half of the first term in experimental work in Organic Chemistry. This is intended to supplement the preceding course, and at the same time to serve as a preliminary training for such students as desire to make a special study of Organic Chemistry.

Opportunity is also afforded for the carrying on of original investigations in this subject, either in connection with theses or as a part of the regular work in the case of advanced students.

PHYSIOLOGICAL CHEMISTRY and EXPERIMENTAL TOXICOLOGY—Physiological Chemistry is taught by laboratory exercises, illustrative lectures, and recitations. Each student is provided with a suitable working place in the laboratory, well equipped with all needed apparatus and material. The regular course of work, designed especially for Senior students in the Biological Course, extends throughout one year and embraces a thorough study of the chemical composition of the various tissues and fluids of the body, together with a study of the chemical and physiological processes of respiration, digestion, secretion, excretion, and nutrition in general.

Beginning with a study of the albuminous bodies, the experimental work extends through the epithelial, connective, contractile, and nerve tissues. Proceeding then to digestion, the various digestive fluids are studied, artificial digestions are made, and the several products of digestive action isolated and studied. The blood and urine are next considered, and students are taught to make both qualitative and quan-

titative analyses of the latter and to identify abnormal constituents. A portion of one term is also devoted to a study of the chemical reactions of the more important mineral and organic poisons, and their physiological action is determined experimentally. Students are also taught how to separate poisons from organic tissues and fluids, and to identify them, both by chemical and physiological reaction. During the latter half of the second term, Senior year, opportunity is afforded for the carrying on of original investigations on some selected subject in either physiological chemistry or toxicology, in connection with the preparation of graduating theses. The course of work is particularly recommended to students intending to enter upon a course of medical studies.

**COMPARATIVE ANATOMY AND ELEMENTARY PHYSIOLOGY**—The object sought in the instruction in Anatomy and Physiology, as taught during Junior year, is the manual and mental training of the student in the methods of investigation by which the facts and principles of these sciences have been established, and at the same time to give him a sufficient knowledge of their elements to enable him to pursue with profit the special studies of the Biological Course as a preparation for medical studies. With this end in view, five forenoons each week are given to laboratory work in Anatomy and Histology. The student, under the immediate supervision of the instructor, dissects specimens of a number of different animals, and is required to make careful sketches and records of his work; he also examines the different animal tissues with the microscope, makes microscopical preparations, and is taught the methods of anatomical and histological investigation. This work is reviewed each week by means of text-book and recitation, or by lecture and examination. The elements of Human Physiology are taught by text-book, recitations, and demonstrations. The physiology of digestion and nutrition is taught during Senior year in connection with Physiological Chemistry. During the last part of the term there is a short course of lectures on Embryology with special reference to Human Morphology.

**GEOLOGY**—The course in Geology includes recitations and oral instruction, extending through the entire year on alternate mornings. During the first half-year, the recitations are attended by the entire Senior Class, except those in the course in Mechanical Engineering. This part of the course includes Physical, Lithological and Dynamical Geology. These subjects are illustrated by diagrams and specimens. During the first term, each student is required to make a collection containing a specified number of the most important rocks and minerals, and to pass a thorough examination upon them at the end of the term; the object is to compel every student to become personally familiar

with the appearance, as well as with the composition and other characters, of the rocks and minerals that are of the most importance in Geology, as well as in the arts.

The last half of the year is devoted to Historical Geology and Palaeontology. This part of the course is pursued by all the Seniors except those in the courses in Mechanical and Civil Engineering. Suitable collections of fossils are used to illustrate the subject.

Opportunities are afforded for optional geological excursions during the warmer months.

**MINERALOGY**—The instruction in Mineralogy is carried on by means of practical work in a laboratory especially fitted up for the purpose, and is intended to familiarize the student with the common minerals, attention being devoted especially to those which are of economic, geological, or scientific importance. To understand better the chemistry of the subject, the student is first made familiar with the simple chemical and blowpipe reactions useful in testing minerals, and applies this knowledge later to the determination of unknown species. The students have access to a labeled collection where they can study the properties of the minerals and make comparisons, and also to extensive unlabeled collections, arranged especially to give them practice and facility in the correct identification of minerals. In addition to the laboratory work, instruction is given in Crystallography, illustrated by a collection of models and natural crystals. The lectures in Descriptive Mineralogy to the more advanced students are illustrated by means of the extensive private collection of Professor Brush. The laboratory is provided with apparatus for the thorough chemical and physical investigation of minerals and with an extensive library to which students have access. The laboratory is open seven hours each day to accommodate any who desire to devote more time and attention to the subject than is laid out in any of the prescribed courses.

**ZOOLOGY**—The instruction in Zoology includes a course of lectures on Systematic Zoology, Morphology, and Embryology, which are attended by all the Seniors except those in the courses in Mechanical and Civil Engineering. These lectures are generally given twice a week, and continue during about half the year. The students are required to keep careful notes of the lectures.

Students in the Natural History Course are also required to pursue a course of laboratory instruction during the second term of the Junior and all of the Senior year. This generally occupies from two to four hours a day on four days of each week. It includes dissections of various classes and orders of animals, with microscopic studies of the finer structures and of minute animal forms, as well as work in systematic Zoology.

Special courses of recitations or lectures on particular subjects are also given when desirable.

**BOTANY**—The scheme of instruction provides for three successive courses of study, as either ending the study for the ordinary student, or introducing it for one who desires to become a professional botanist.

The first or elementary course, which is required of all the Freshmen, is designed to teach the nature of the visible organs of flowering plants, tracing the life-history of vegetation from seed, through stem and root, leaves, branches, buds, blossoms, and fruit, to seed again. The method consists mainly in the use of some easy text-book, like Gray's *Lessons*, with whatever illustrations and explanations may be needed to secure the student's attention. The second course, coming the next year, is restricted to the sections in *Biology*, *Natural History*, *Agriculture*, and *Selected studies*, and is intended to enable the student to recognize the chief natural orders of native plants, with the ability to identify the common species. The class meets two or three times a week in spring and summer, and is practiced in identifying plants, using Gray's *Manual* as a standard, and employing the ordinary simple dissecting microscope. At this point the instruction for the Select Course ceases; in the next fall term the work for the courses in *Biology*, *Natural History*, and *Agriculture* is entirely practical, books being used only for reference. Students begin with cutting thin sections of some common woody and herbaceous stems, and are shown how to prepare such sections for examination and for permanent preservation as microscopic objects. After acquiring some facility in microscopic manipulation, various parts of flowering plants are brought in for dissection and examination, and towards the close of the term some attention is given to *Ferns*, *Mosses*, and *Algae*. This finishes the course for ordinary students; for those who may desire to prosecute the science professionally, the work is arranged to suit individual requirements, whether it be in the direction of *Histology*, or of *Systematic Botany* as applied to flowering plants, or to *Ferns*, *Mosses*, *Hepatics*, or *Algae*.

**AGRICULTURE**—The special instruction in the science of *Agriculture* is by recitations and lectures, with such aid and appliances as are suited to the class-room. Besides *Agricultural Chemistry*, it includes a discussion of the cultivation of the staple field crops of the country; theories of rural economy and systems of husbandry; the laws of heredity, and principles of stock-breeding.

**SANITARY SCIENCE**—The lectures on this subject discuss the natural laws which govern the public health; their relation to the social habits and condition of communities; instruction in the use of mortuary sta-

tistics ; epidemics and pestilence, with their relations to the prosperity of a community, and methods of control ; the germ-theory of disease and theory of disinfectants ; the hygiene of private dwellings and public buildings ; the relations of the water supply to public health ; sanitary engineering ; legislation relating to public health and methods of official sanitary administration.

**MATHEMATICS**—The Mathematical studies of the Freshman year are pursued by all members of the class ; those of the Junior year by students in the course of Engineering and properly qualified Special Students who may choose them. During the latter year, in connection with the instruction briefly indicated in the scheme above [p. 88], a course of familiar lectures is given to supplement the ordinary classroom exercises.

**PHYSICS**—The object of the experimental lectures is not only to elucidate the subjects treated in the text-book employed, but also to extend the treatment of such subjects, and to introduce others where thought desirable. A considerable portion of the work of the year is the preparation for recitation on matter thus presented.

At the end of the fall term, the Freshman class is re-divided into three sections, according to capacity shown in the subjects of Chemistry and Physics. After this, although the experimental lectures are attended as before by the class as a whole, the higher divisions are able to pursue the studies more thoroughly.

The facilities of the Physical Laboratory are extended to such graduate students and Seniors as may desire them.

*Course in Advanced Physics*—A course of two lectures per week, beginning in January, is supplemented by laboratory work. The earlier portion of the time is devoted to the theory of observation and the method of least squares. The course is optional to all who have a command of the calculus.

**MILITARY SCIENCE AND TACTICS**—Instruction in this course is obligatory upon the whole Senior class in all departments. To secure familiarity with definitions and fundamental principles, a concise text-book is used for recitations and reference. The work is carried on chiefly by lectures, upon which satisfactory notes must be submitted. Such topics as the following are discussed : military economy ; the American military problem ; organization and reorganization ; modern war on field and map ; statistics and logistics ; the combined use of "the three arms" ; strategy and campaigning ; orders of battle and grand tactics ; special operations of war and field service ; minor tactics and the art of war ; use of cavalry in campaign and battle ; use of artillery and the Franco-



Prussian war; use of infantry and the Turko-Russian war; and finally a summary of "the Eastern Question." The course will terminate with an examination, and a special military certificate is awarded, by the Regular Army officer in charge of the department, to such students as attain a sufficient degree of proficiency, and give evidence of military aptitude. In connection with this course a brief original paper is required.

**CIVIL ENGINEERING**—The object of this course is to give a thorough preparation, first of all, in the principles of the various sciences involved, and afterwards, as extensive practice in the application of these principles as the time at disposal, the ability of the students, and the facilities and plant permit.

Under the first head are included such subjects as Mathematics, Physics, Mechanics, Thermodynamics, Astronomy, Geology, Mineralogy, Chemistry, and Botany; and under the second head, Drawing, Surveying, Strength and Properties of materials, and Design and Construction of various kinds, such as Bridges, Roofs, Foundations, Arches, Retaining Walls, Dams, Water Works, Railroads, Improvement of Rivers and Harbors, Sewerage and Drainage, Water Motors, etc.

The first division includes Civil Engineering as a Science, the other Civil Engineering as an Art. The ground covered by the first is definite, and the instruction is made as thorough as possible. The ground covered by the second is of almost indefinite extent. Here, by a careful selection of practical examples, such as occur in engineering practice, the application of principles is illustrated, and together with the analytical or algebraic methods, the student is also instructed in practical graphic solutions, wherever such solutions present a special value. Much time is devoted to geodetic operations and to surveying in the field. Instruction is given in the practical operations connected with the reconnaissance, location, and surveys of roads, canals, and railroads, such as setting out, cross-sectioning, setting grade stakes, calculation of earthwork, etc. Thorough instruction is given in drawing and design, the construction of working drawings, and principles of designing as applied to bridges, roofs, etc.

The instruction is by means of practical exercises, lectures, and recitations, so combined as to develop as far as possible the mental powers of the student. Visits of inspection are made at suitable intervals to private and public works of engineering interest.

The entire course requires five years, three years of undergraduate and two of graduate instruction; and a Thesis of merit upon some approved subject, accompanied by designs and estimates, is required upon the completion of the course, as also at the end of the first three years. Examinations are also held at the end of every term and year.



In what follows, such details are given as may be of interest to those who contemplate taking the course.

*Mathematics*—6 hours weekly, Junior year, both terms. See Synopsis of Course.

*French and German*—Students in this course take in the Junior year the regular studies of the Junior class in both German and French, 3 hours each. In the Senior year, French is continued, 3 hours to the end of the Winter half-term.

*Drawing and Descriptive Geometry*—Drawing is begun at once in the first term of Freshman year, under the charge of the Professor of Drawing in the Art School, and includes practice in free hand drawing. In the second term, under the Instructor in Instrumental Drawing, the students take isometric drawing with application to drawing from models and structures by measurement, shading, tinting, conventional use of colors, principles of orthographic projections, and practice in making simple working drawings, 4 hours both terms.

The Drawing of Junior year, 3 hours both terms, includes Descriptive Geometry, the drawing of structures from measurement, and elements of design for simple structures. The instruction is by recitations, lectures, practical exercises and models, and is under the charge of the Instructor in Instrumental Drawing and the Professor and Instructor in Civil Engineering. Included in the work of this year is also the mapping of surveying field notes.

In the Senior year, the drawing consists of the mapping of the surveys of that year, and the designing of structures and finished drawings, designs and estimates, under the charge of the Professor and Instructor in Civil Engineering, 6 hours both terms.

*Surveying and Field Engineering*—The instruction in the field occupies about 20 hours for six or more weeks in both terms of Junior and Senior year. The exercises at these times are so arranged as to secure as much consecutive time as possible in the field. The work of the Junior year includes the use and adjustments of instruments; practice surveys; recitations, and lectures upon surveying operations and methods of keeping field notes. Levels are run, surveys made, plotted, and checked; blue print copies of drawings made, the use of compass, level, and transit acquired. In the second term of Junior year, land and topographical surveys are made and railroad curves run.

In the first term of Senior year, a line of railroad is located and set out from a contour map previously obtained, grades and curves established and set out, and computations made. The theory of economic location is taught by lectures and recitations in connection with the field work. The work is arranged so that each student has sufficient practice in all the various operations. The text-books used are Gillespie and Johnson's works, Henck's Field Book, Gore's Elements

of Geodesy, and Merriman's Theory of Least Squares. The course is under the charge of the Professor and Instructor in Civil Engineering, aided by several assistants.

*Mechanics of Engineering*—Senior year, 6 to 8 hours, both terms. The text-books of Weisbach, 1st and 2d volumes, are used in connection with lectures and solutions of practical problems in illustration of the various topics. The course includes thorough instruction in the strength of materials, the stability of foundations, retaining walls, dams and embankments, and masonry arches, by lectures and graphic methods. Questions of hydraulics, water supply, and measurement of discharge, receive attention, and the theory and construction of water motors. A course in Thermodynamics with application to air and steam engine is also included.

*Construction and Design*—Senior year, 6 hours both terms. A thorough course is given in the determination of stresses and the detailed design of roofs, bridges, etc., with working drawings, specifications, and estimates. Visits of inspection are made, and recitations and lectures held in connection with the work in the drawing room.

*Astronomy*—This course occupies 6 hours during the second term of Senior year, and includes practical work and the use of the sextant and transit in determining time, latitude, and azimuth.

*Geology*—This course occupies 3 hours up to the middle of the second term of Senior year.

*Mineralogy*—This course, under the Professor of Mineralogy, occupies three hours up to the middle of the second term in Senior year.

A course of lectures on the theory of electricity and its applications, by the Professor of Physics, is open to students in this department, and can be taken as a part of the preparation for a graduate course in the higher branches of electrical science.

**MILITARY ENGINEERING**—The object aimed at is to disseminate military information, and to awaken interest in the application of the arts of peace to those of possible war. In connection with the courses of Civil Engineering and Military Science, lectures will be given upon such topics as: systems of fortification; sea-coast defences; hasty intrenchments; passage of rivers and military bridges; military reconnaissance, and instruments; battlefield telemetry and methods; sea-coast range-finding, and ship-tracking devices; gunpowder and ballistic machines; high explosives and demolitions; gun metals, modern ordnance and gunnery; armor plates, turrets, projectiles, and fuses; torpedoes, submarine mines, military electric installation, and countermining.

**MECHANICAL ENGINEERING**—The objects aimed at in the plan of instruction in this course are, to give to the student a thorough training

in elementary and advanced Mathematics and Physics, and their application to the Science of Construction; to make him familiar with the general principles of Engineering and with the practical details of mechanical construction through which these principles are made useful; and to enable him ultimately in beginning the work of his profession to bring to bear upon it a well balanced store of theoretical and practical knowledge, and a mind trained in correct habits of thought and work.

The complete course covers five years, three of which are spent in undergraduate study, and two in a graduate course, a portion of which may be spent in actual practical work. The subjects and methods of instruction in the undergraduate course are as follows:—

*Mathematics*—See synopsis, page 89.

*French and German*—Students take in the Junior year the regular studies of the Junior class in both French and German. In the Senior year, French is continued to the end of the winter half-term.

*Surveying*—A short course in Surveying comprises lectures on methods of surveying and the construction and use of instruments, also practice in field work in the use of the level and transit, city surveying, establishing grades, and laying out buildings.

*Shop Visiting* divides the time equally with Drawing in the Junior year until the spring recess. The student, accompanied by the instructor, is employed in studying machinery in use and in process of construction in different machine shops in the city. He is required to make satisfactory, carefully dimensioned sketches, from measurements taken by himself, of the complete machines and their parts, and to describe the tools and mechanical operations used in producing the simpler pieces.

*Drawing*—Descriptive Geometry is taught in the drawing room by lectures and recitations, and by exercises at the drawing board, where the problems are solved graphically by the student. Instruction in drawing Machine Elements is given in the Junior year. Models and cartoons showing examples of approved practice are used by the instructor, who also gives personal attention to each student's work at the board as it progresses.

*Principles of Mechanism*—This is a course in theoretical and applied Kinematics. Instruction is by text-books and lectures illustrated by diagrams and models, an extensive collection of which belongs to the School and is accessible to the student.

*Steam Engine*—Recitations and lectures in this subject begin in the Junior year, after the spring recess. They relate to the structural details of engines and to the mechanical principles involved in their working. The subject is continued in the first term of Senior year, when particular attention is directed to various kinds of valve gear, the governor,

the fly-wheel, balancing, and the effect of the weight of the reciprocating parts. In the second term of Senior year, the study of *Steam Boilers* takes the place of that of Engines.

*Indicator Practice*—In the Senior year, the student is afforded opportunities to apply the indicator to various engines in operation, and has practice in reading indicator cards and measuring them by the planimeter. He is taught to detect such defects in the engine as are shown by the cards.

*Applied Mechanics*—In this course lectures, recitations, and exercises in the solution of practical problems, relate to the topics specified under this head in scheme on page 89.

*Thermodynamics*—Recitations and lectures on the mechanical theory of heat and its application to hot-air engines, gas engines, and the steam engine.

*Machine Design*—The course in this subject consists chiefly in practical exercises at the drawing board, and partly in lectures on the functions of machines and the mechanical principles which are applied in determining the proportions of machinery. The student, under the guidance of an experienced instructor, is employed in making complete working drawings of machines, many examples of which are in the drawing rooms and the basements of the school. He does not copy the examples, but is required to change the dimensions and in many cases to alter the design, and is ultimately taught to make partly new designs of important machinery, such as cranes, yacht engines, machine tools, boilers, etc. The discipline the student receives is such as he would obtain in the drawing office of an engineering establishment, while he is also carefully instructed in the theory of the subjects he deals with, and in the practical bearing of all his work.

In the Senior year, several excursions are made by the class, accompanied by one or more instructors, to neighboring manufacturing and engineering centers, where large manufactories, pumping works, ocean steamers, etc., are visited. Full notes must be taken, and a satisfactory written report upon the machinery examined is required of the student.

*Thesis*—Before graduating, the student must present a satisfactory thesis on some subject approved by the professor in charge of the department of Mechanical Engineering.

A course of lectures on the theory of Electricity and its applications is open to students in this department, and these lectures can be taken as a part of the preparation for a graduate course in the higher branches of electrical science.

**ASTRONOMY**—Students in the Select Course receive instruction in Astronomy during Junior year, first term, four hours per week.

Students of Civil Engineering during the second term of their Senior year have six recitations per week, and also practical experience in the determinations of time, azimuth, latitude, longitude, etc.

ENGLISH—The course is designed to give the student acquaintance with the great representative writers of the various epochs. A history of the language is one of the studies of the Freshman year; and after that year the study of the language is made entirely subordinate to that of the literature. During first term of Junior year, however, extracts from Early English authors are read, and Early English Grammar studied, so as to familiarize the student with the inflections then in use and the distinctions existing between the leading dialects. It is the aim of this term's work to give such knowledge of forms, and to some extent of words, that the student will be able to read at sight any Early English author whose writings do not involve special difficulties of language or vocabulary.

With the second term, the regular study of English literature proper begins with Chaucer; and for the rest of the course till the end of Senior year the following authors are read: Bacon, Shakspeare, Milton, Dryden, Pope, Gray, Goldsmith, and later writers. Those mentioned in the lists are always studied, but other authors not named are also taken up, the course varying somewhat in different years. In all cases, complete works of a writer are studied, not extracts; as, for instance, several of Chaucer's Tales, and several of the plays of Shakspeare. The authors are taken up in chronological order, and the literary history of the time is likewise carried on in connection with the great representative writers of each period.

GERMAN—The aim in this department is to give such a knowledge of facts and principles as shall qualify the student as rapidly as possible to use the language for such various purposes as his special needs may require, and particularly to facilitate the use of German treatises in his later special studies. To accomplish this, the course consists of the combination of the study of systematic German grammar with a complementary and progressive course of oral translation from English into German, the latter being designed for the double purpose of increasing the command of grammatical principles, and through the establishment of a habit of ready and accurate expression, of laying the foundation for future colloquial use of the language. In connection with the foregoing, it is attempted to introduce the student to as many different styles and as many forms of composition as the time allows. For this purpose the reading matter is in general selected from readers and collections prepared for the use of schools in Germany, and characterized by the number and variety of their extracts, thus enabling the instructor to select pieces that illustrate one another and to avoid similar lines of reading with successive classes. Constant attention is paid during a portion of the course to English affinities, to analogies in the formation of English and German abstract terms, to the commoner rhetorical resemblances

and differences, to the details of arrangement in German sentences, and the development of secondary from primary significations of words.

In view of the shortness of the course there is no attempt to secure any considerable acquaintance with German literature. A body of representative pieces of lyric poetry, however, is made the basis of careful literary study, with special attention to poetic diction and variety of metrical form. Memorizing German poems is practiced to some extent as a class exercise, as also retranslation of dictated literal versions of simple pieces into German verse, in accordance with prescribed rhythm and sequence of rhyme.

Occasionally, when the proficiency of a class allows it, an advanced division is organized, which is thus enabled to read a much larger amount of matter and to pursue more critical methods. The attention of such a division is sometimes given for a few months to extracts treating of leading events in German history, with a collateral course of German historical poetry, the selections being made so as to be mutually illustrative. Historical poems not contained in the text-books are often furnished by dictation.

During the last few weeks of the course, there is an attempt to initiate the student into the art of rapid and intelligent, though uncritical reading, dispensing largely with dictionary and grammar and aiming to form independent habits of observation and induction. For this purpose recourse is had to entertaining novels.

In general, it is the endeavor, while aiming primarily and constantly at acquiring a working knowledge of contemporary German, to combine habitually scientific and empirical methods, to enforce correct notions as to the nature of language, to secure incidentally some of the most important disciplinary results of elementary linguistic study, and to give some conception, by suggestive questions and occasional statements, of the various special directions which a more extended and advanced course would necessarily take.

The time allotted to the subject is three hours a week during the Freshman and Junior years.

Regular text-books: Whitney's German Grammar, Whitney's German Dictionary; Ahn's Exercises, or Eysenbach's German Exercises.

FRENCH—To avoid repetition, it will suffice to state that much the same course is pursued in French as is above detailed for the German, and on like principles. The three weekly exercises extend through the entire Junior, and most of the Senior year, based on a systematic review of the essential elements. In the Junior year, a wide extent of reading is insisted on, beginning with the simpler novels, such as "Le Conscrit," "L'Ami Fritz," "La Petite Fadette," etc., through a scale of diversified vocabulary by which at last sight-reading of such matter as

is more appropriate to the department may be profitably entertained. The practical or conversational course runs along parallel with the more systematic study of the language.

In the second year, the aim is to familiarize the student with practical terms and expressions of a scientific cast, rather than with the purely literary language. Hence practical works, such as books of travel and scientific treatises, have seemed best adapted to the general object in view.

**HISTORY**—The greater part of the work is carried on by means of recitations, Green's Short History of the English People being used as a text-book. The students are also required to look up special topics, and to give the results of their studies to the class: the books used for this purpose are drawn from a small historical library in the class-room. The location of places is enforced by the use of outline maps which the students are required to fill in. Particular attention is given to the history of institutions and to the constitutional and economic growth of the country.

**POLITICAL ECONOMY**—In the beginning of the course, an effort is made to familiarize the students with the fundamental principles of Economics, and more particularly to train them in economic reasoning. More difficult problems are then taken up and discussed, and special topics are assigned to the class for investigation. A small library, containing a number of copies of each of the principal authorities, has been provided, in order that the students may be able to familiarize themselves somewhat with the literature of the subject, without expense to themselves.

**THE TERMS AND VACATIONS** correspond with those of the College. (See Calendar, p. 6.)

**EXPENSES**—The charge for tuition for undergraduate students is \$150 per year, payable \$55 at the beginning of the first and second terms, and \$40 at the middle of the second term. An additional charge of \$5 a year is made to each student for the use of the College Reading Room and Gymnasium, which is payable at the beginning of the first term, making the total charge for that term \$60. The student in the Chemical course has an additional charge of \$60 per annum for chemicals and use of apparatus. He also supplies himself at his own expense with flasks, crucibles, etc., the cost of which should not exceed \$10 per term.



A fee of \$5 is charged to members of the Freshman Class for chemicals and materials used in their laboratory practice, and the same fee is required from all (except Chemical students) who take practical exercises in Blowpipe Analysis and Determinative Mineralogy. A fee of \$5 for the first term and \$10 for the second term is also charged to students in the Zoological and Anatomical Laboratories, for materials and use of instruments.

For graduate students the charge for tuition is one hundred dollars per year.

THE FEE FOR GRADUATION in the case of BACHELORS OF PHILOSOPHY is ten dollars, unless the person taking the degree is also a graduate of the College, when the fee is but five dollars.

#### SCHOLARSHIPS

STATE SCHOLARSHIPS—By an Act passed in 1863, the General Assembly of Connecticut established certain scholarships from the income of the fund derived from the National Grant of July, 1862, for the promotion of scientific education. There are now about twenty-three of these scholarships (the number depending upon the income of the fund), designed to aid by free tuition young men fitting themselves more especially for pursuits in agriculture, manufacturing, and engineering.

The applicants must be citizens of Connecticut. The appointing board consists of the Board of State Visitors (see p. 83) and the Secretary of the School; it meets on the Tuesday before Commencement (viz.: on June 23, 1891), to fill the vacancies for the next University year. Applications should be made, previous to that date, to Professor George J. Brush, Secretary of the appointing Board.

THE HOLMES SCHOLARSHIP, founded by Samuel Holmes, Esq., amounts to \$50 per year. The recipient must be a citizen of Middlebury, Prospect, Waterbury, or Wolcott, Connecticut; the appointments are made by the Board of Agents of the Bronson Library in Waterbury.

## DEGREES

THE DEGREE OF BACHELOR OF PHILOSOPHY is conferred on those who have completed one of the three-year courses, and have passed the examination at its close.

CIVIL ENGINEER AND DYNAMIC OR MECHANICAL ENGINEER—see page 113.

DOCTOR OF PHILOSOPHY—see page 112.

# COURSES OF GRADUATE INSTRUCTION

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## FACULTY

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT

REV. NOAH PORTER, D.D., LL.D., *Professor of Moral Philosophy and Metaphysics*

JAMES D. DANA, PH.D., LL.D., *Professor of Geology and Mineralogy*

REV. JAMES M. HOPPIN, D.D., *Professor of the History of Art*

EDWARD J. PHELPS, LL.D., *Professor of Law*

WILLIAM D. WHITNEY, PH.D., LL.D., *Professor of Sanskrit and Comparative Philology*

GUSTAVE J. STOECKEL, MUS.D., *Professor of Music*

HUBERT A. NEWTON, LL.D., *Secretary, and Professor of Mathematics*

GEORGE J. BRUSH, LL.D., *Professor of Mineralogy*

SAMUEL W. JOHNSON, M.A., *Professor of Theoretical and Analytical Chemistry*

WILLIAM H. BREWER, PH.D., *Professor of Agriculture*

JOHN E. CLARK, M.A., *Professor of Mathematics*

DANIEL C. EATON, M.A., *Professor of Botany*

ARTHUR M. WHEELER, M.A., *Professor of History*

JOHN F. WEIR, N.A., M.A., *Professor of Painting*

J. WILLARD GIBBS, PH.D., *Professor of Mathematical Physics*

CHARLES B. RICHARDS, M.A., *Professor of Mechanical Engineering*

ARTHUR W. WRIGHT, PH.D., *Professor of Experimental Physics*

THOMAS R. LOUNSBURY, M.A., *Professor of English*

OTHNIEL C. MARSH, PH.D., LL.D., *Professor of Palaeontology*

EUGENE L. RICHARDS, M.A., *Assistant Professor of Mathematics*

WILLIAM I. KNAPP, PH.D., LL.D., *Professor of Modern Languages*

JOHN H. NIEMEYER, M.A., *Professor of Drawing*

TRACY PECK, M.A., *Professor of Latin*

ADDISON E. VERRILL, M.A., *Professor of Zoology*

WILLIAM G. SUMNER, LL.D., *Professor of Political and Social Science*

REV. GEORGE T. LADD, D.D., *Professor of Mental and Moral Philosophy*

CHARLES H. SMITH, M.A., *Professor of American History*

SIDNEY I. SMITH, M.A., *Professor of Comparative Anatomy*

WILLIAM G. MIXTER, M.A., *Professor of Chemistry*

HENRY P. WRIGHT, PH.D., *Professor of Latin*

HENRY A. BEERS, M.A., *Professor of English Literature*

A. JAY DUBOIS, PH.D., *Professor of Civil Engineering*  
EDWARD S. DANA, PH.D., *Professor of Physics*  
THOMAS D. SEYMOUR, M.A., *Professor of Greek*  
CHARLES S. HASTINGS, PH.D., *Professor of Physics*  
WILLIAM R. HARPER, PH.D., *Professor of the Semitic Languages*  
FRANK A. GOOCH, PH.D., *Professor of Chemistry*  
ALBERT S. COOK, PH.D., L.H.D., *Professor of English*  
ANDREW W. PHILLIPS, PH.D., *Assistant Professor of Mathematics*  
GEORGE B. ADAMS, PH.D., *Professor of History*  
HENRY W. FARNAM, R.P.D., *Professor of Political Economy*  
RUSSELL H. CHITTENDEN, PH.D., *Professor of Physiological Chemistry*  
ARTHUR T. HADLEY, M.A., *Professor of Political Science*

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## OTHER INSTRUCTORS

REV. SAMUEL HARRIS, D.D., LL.D., *Professor of Systematic Theology*  
REV. GEORGE P. FISHER, D.D., LL.D., *Professor of Ecclesiastical History*  
WILLIAM C. ROBINSON, LL.D., *Professor of Law*  
REV. CORNELIUS KITCHEL, M.A., *Instructor in Greek*  
JOHN P. C. FOSTER, M.D., *Instructor in Anatomy*  
WILLIAM BEEBE, B.A., *Assistant Professor of Mathematics and Astronomy*  
SAMUEL L. PENFIELD, PH.B., *Assistant Professor of Mineralogy*  
HORACE L. WELLS, PH.B., *Assistant Professor of Analytical Chemistry*  
EUGÈNE BERGERON, *Instructor in French*  
EDWARD V. RAYNOLDS, D.C.L., *Lecturer on Roman and Constitutional Law*  
FRANK P. GOODRICH, M.A., *Instructor in German*  
GEORGE S. GOODSPEED, M.A., *Assistant in the Semitic Languages*  
GEORGE M. DUNCAN, M.A., *Instructor in Mental and Moral Philosophy*  
HENRY C. WHITE, M.L., *Lecturer on Local Government*  
E. HERSHEY SNEATH, PH.D., *Lecturer on the History of Philosophy*  
ROBERT F. HARPER, PH.D., *Instructor in the Semitic Languages*  
FRANK K. SANDERS, PH.D., *Assistant in the Semitic Languages*  
FRANK F. ABBOTT, B.A., *Tutor in Latin*  
CLARK E. CRANDALL, M.A., *Assistant in the Semitic Languages*  
EDWARD T. MCLAUGHLIN, B.A., *Assistant Professor of English*  
GUSTAVE F. GRUENER, B.A., *Tutor in German*  
W. IRVING HUNT, B.A., *Tutor in Greek*  
JOHN C. SCHWAB, PH.D., *Lecturer on Political Science*  
HERBERT A. AIKINS, B.A., *Lecturer on the History of Philosophy*  
HERBERT C. TOLMAN, PH.D., *Assistant in the Indo-European Languages*

The instruction of graduates, independently of the courses of study provided in the professional schools, had been attempted in an informal way before 1847, when such courses were definitely arranged, and the Department of Philosophy and the Arts constituted, with this object in view. The degrees of Doctor of Philosophy and Civil Engineer were first offered in 1860, that of Dynamical or Mechanical Engineer in 1873, and that of Master of Arts (previously given without evidence of study) in 1874.

Graduates of this and other Colleges and Universities, and (in exceptional cases, by special permission) other persons of liberal education, who are not less than eighteen years old, are received as students for longer or shorter periods, with or without reference to the attainment of a degree.

An Executive Committee has a general oversight of the students in this Department. The Committee this year is composed of Professors WHITNEY, NEWTON, BRUSH, WHEELER, HARPER, and HADLEY. They receive the names of applicants for instruction, and judge and approve the courses of study proposed; and information may be obtained from them as to conditions, terms, etc. Students may also make special arrangements with any instructor according to their mutual convenience. All graduate students not regularly enrolled in any other Department of the University, are required to register their names at the Treasurer's office at the beginning of each year of study.

Instruction is given partly by lectures, partly by recitations and by oral and written discussions, partly by directing courses of reading, and partly by work in the laboratories and with instruments. There are also various voluntary associations, in which instructors and students meet together periodically for the reading of papers, oral discussions, etc.; such are, the Classical and Philological Society, the Mathematical Club, the Political Science Club, the Philosophical Club, the Semitic Club, etc.

The terms and vacations correspond with those in the Undergraduate Departments. (See Calendar, p. 6.)

The fee for instruction is generally one hundred dollars ; but may be more, or less, according to the course pursued and the amount of instruction received. Students have the free use of the Library of the University (including the Linonian and Brothers Library); and are admitted to the College Reading Room on payment of an annual fee of two dollars.

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THE DEGREE OF DOCTOR OF PHILOSOPHY is conferred upon those who, after having taken a Bachelor's degree (implying a course of undergraduate study equivalent to that pursued in the Academical Department), and having studied in this Department for not less than two years, shall have passed a satisfactory final examination and presented a thesis giving evidence of high attainment in the branches of knowledge pursued. The thesis must be deposited at the Library for public inspection, not later than June 1. The degree is not given, upon examination, to those whose studies are pursued elsewhere. The requirements for a degree in many cases exact of the student more than two years of labor ; especially when the course of undergraduate study has been less than four years. A good knowledge of Latin, German, and French, is required in all cases, unless, for some very exceptional reasons, the candidate be excused by the Faculty. The fee for graduation is ten dollars.

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THE DEGREE OF MASTER OF ARTS is conferred on Bachelors of Arts of Yale College or of other Colleges, of two years' standing or upwards, who have given to the Faculty of the Academical Department evidence of having made satisfactory progress in liberal studies after receiving their first degree. Such evidence may be furnished by one year's systematic study (not professional) in New Haven, under the direction of the Academical Faculty, followed by an examination. Graduates of other Colleges can obtain the degree only by residence as thus described.

Such Bachelors of Arts of *Yale College* as may not choose to reside at the College for the prosecution of study may show at any time, not less than three years after graduation, by their printed essays, or by submitting to special examinations, that they have spent a year in liberal (and non-professional) study, and are worthy of recommendation for this degree.

A committee of the Faculty is appointed (consisting for the present year, of Professors NEWTON and WHEELER), to whom candidates for this degree must submit their proposed courses of study for approval by the first of November in each year; and the evidence of a year's study must be submitted to the same committee by the first of June.

In the case of resident students, the charge for instruction will usually be one hundred dollars, with a fee of ten dollars for the degree. In the case of non-residents, the fee for examinations and the degree will usually be twenty-five dollars.

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THE DEGREES OF CIVIL ENGINEER AND MECHANICAL (or DYNAMICAL) ENGINEER are conferred on Bachelors of Philosophy who have taken the first degree in Engineering study, and who pursue a higher course under the direction of the Governing Board of the Sheffield Scientific School, for at least two years, sustaining a final examination, and giving evidence of their ability to design important constructions and to make the requisite drawings and calculations. The fee for graduation is five dollars.

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The Courses of Instruction may be grouped as follows :

I. PSYCHOLOGY ; ETHICS ; PHILOSOPHY

Ex-President PORTER :—*Psychology and Philosophy* ; two hours a week through the year. This course is designed to afford the student opportunity to re-examine with a critical spirit some of the questions which have been raised by the earlier study of psychology. Porter's *Human Intellect* is read, with special reference to the portions

printed in the smaller type. The positions of the leading thinkers of the English and Scottish School are examined,—both as expounded by themselves and as criticised by Professor Green.

Professor LADD :—1. *Philosophy of Religion* ; one hour a week through the year. This course of lectures continues the general subject discussed for the year 1889-90. The special topics considered by them include the Relations of God to the World, Nature and the Supernatural, Miracles, Inspiration, Man as a Religious Being, and the Religious Life.

2. *Philosophy* ; one hour a week through the year. This course consists of expository and critical lectures upon Kant's Critique of Pure Reason, with reading and discussion of this masterpiece by the class. The amount of reading required of each student is adjusted to the amount of emphasis which he wishes to lay upon philosophical studies.

3. *History of Philosophy* ; two hours through the year. The philosophical development of the seventeenth century on the continent of Europe, as introductory to Kant, is made the subject of study in this course. Some of the master-pieces of Descartes, Spinoza, and Leibnitz are read and discussed before the class.

[The following undergraduate courses are also open to graduate students.]

Ex-President PORTER :—*Advanced Ethics* ; two hours through the year. This course has special reference to social and theological questions. The exercises involve the critical history and analysis of the systems of the most important ethical writers. The works used principally as text-books are : Abbott's Kantian Ethics ; Alexander on Moral Order and Progress ; Wilson and Fowler, Moral Philosophy. Reference is also made to Sidgwick, History of Ethical Theories and Methods of Ethics ; Martineau, Studies in Ethics ; Porter, Kantian Ethics ; Spencer, Data of Ethics ; Leslie Stephen, System of Ethics ; J. S. Mill, Utilitarianism.

Professor LADD :—*Introduction to Philosophy* ; two hours through the year. The design of this course is to present, in an elementary and summary way, the principal philosophical problems. To this end, some brief work on Psychology is read, to be followed by the reading of a book on the Introduction to Philosophical Study. Lectures and discussions continue through the year. Toward the close of the course, special emphasis is laid on Ethics, Aesthetics, and the Philosophy of Religion.

2. *Physiological Psychology* ; two hours through the year. A study (illustrated by charts, models, and histological preparations) of the human nervous mechanism, of the principal relations which exist between changes in this mechanism and the activities of the mind,



and a discussion of the conclusions which may be drawn from these relations respecting the nature and laws of the mind. Ladd's Elements of Physiological Psychology.

3. *Pedagogics*; one hour through the year. The theory and practice of teaching is discussed, with recitations and lectures based upon Rosenkranz, Philosophy of Education, and Fröbel, Education of Man.

MR. DUNCAN:—*History of Philosophy*; two hours through the year. An elementary study of the development of speculative thought from Descartes to the present time, with cursory reading of philosophical masterpieces from Descartes to Kant. Descartes, Method and Principles of Philosophy, pt. i; Bacon, Novum Organum; Spinoza, Ethics—selections; Locke, Essay on Human Understanding—selections; Leibnitz, Monadology and Philosophical Opuscles; Berkeley, Principles of Human Knowledge; Hume, Inquiry concerning Human Knowledge; Kant, Prolegomena.

Professor HARRIS:—1. *The Philosophical Basis of Theism and the Self-Revelation of God*. This course of instruction for the Junior class of the Divinity School is open to graduate students on applying to the professor; two hours a week.

2. The course in *Christian Ethics*, designed for the graduate class in the Divinity School, is also open to graduate students of philosophy on applying to the Professor: one hour a week.

Professor FISHER:—*Comparative Religion*. The course embraces one exercise a week, at which familiar lectures are given by the instructor, and essays read (in connection with conversational discussions) by the students. Constant reference is made to Saussaye's Religionsgeschichte. Among the principal topics considered are the origin of religion; the classification of religions, and their principal forms; the phenomenology of religion (objects of worship, the worship of nature and of men, magic and divination, sacred places and persons, mythology, the connection of religion with ethics, etc.); the ethnographic division of religions; the principal religions of the world. To this last topic attention specially is given, without neglecting, however, to inquire into the peculiarities of the minor forms of religion.

Dr. SNEATH:—*Ancient Greek Philosophy*. A course of lectures on *Ancient Greek Philosophy*, followed by readings in Plato, Aristotle, and subsequent philosophers, with supplementary lectures. A brief consideration of Scholastic Philosophy will close the course.

Mr. ATKINS:—*Locke, Berkeley, and Hume*. A course of instruction in *Locke, Berkeley, and Hume*, with special emphasis upon the writings of the last of these philosophers, as introductory to a study of Kant.

## II. POLITICAL AND SOCIAL SCIENCE; HISTORY; LAW

Professor SUMNER :—1. *Finance and Politics in the History of the United States*; two hours both terms. This course deals with the history of the United States as a field for the study of currency, banking, tariff, public finance, the history of political economy, the art of politics, the science and art of government, and industrial history. It occupies two years. In 1890-91, the second part, from 1828 to 1888, will be given. It is assumed that those who attend this course have a good knowledge of the civil history of the United States.

2. *The Industrial Organization*; two hours both terms. The transformation of the feudal-military society into the industrial-commercial society, with the history of economic knowledge and opinion :—manors, guilds, cities, monopoly trading companies, colonization, world-market, factory and wages system. The growth and perfection of the devices and social relations by which modern society is industrially organized will also be studied : *e. g.* contracts of sale and loan, speculative and wager contracts, monopolies, public loans, bills of exchange, banks, corporate combinations, commerce, and contracts of hire of land and services. Special attention is given to all phenomena connected with either natural or artificial monopolies, to opinions and legislation about monopolies, and to institutions based on them.

3. *Anthropology*; two hours both terms. This course is given every other year, alternating with course 2. It will not be given in 1890-91.

4. *The Logic and Method of the Social Sciences*. A short course of lectures on the classification of the social sciences and their relation to each other; also on their relation to history and law, on the most important current fallacies in social science, and on existing controversies about method, especially in Political Economy.

5. *Political Economy*. (See p. 39.)

6. *Finance*. (See p. 39.)

Professor SUMNER and Dr. SCHWAB :—*School of Political Economy*. In the School of Political Economy, under the direction of Professor Sumner, the financial history of the United States since 1860 will be studied during 1890-91, each of the members investigating an assigned topic in the proposed field. The work in this School will demand most of the time of those who join it.

Candidates for a degree are required to pursue, and to be examined on, a course of reading in the leading text-books of Political Economy, which will be prescribed by Professor Sumner for each student upon consultation.

[Professor FARNAM has taken a leave of absence for a year; the courses usually given by him will therefore be omitted in 1890-91.]

Professor HADLEY:—1. *Corporations*; two hours first term. The history of corporate ownership; its effect upon labor, prices, and profits, with the legislation of different states and countries on these subjects; the limits of public and private activity in corporate business.

2. *Railroad Administration*; two hours second term. This course deals with railroad expenditures and receipts, the methods of railroad accounting, railroad rates and discriminations and their effects upon the community, the various methods of legislative control and their results.

3. *Methods of studying Political Events*; one hour first term. An account of the chief sources of contemporary historical information and the methods of using them for scientific work.

4. *Industrial History of the United States since 1850*. (See p. 40.)

5. *Modern Economic Theories*. (See p. 40.)

Professor PHELPS:—*Law*. (See p. 41.)

Professor ROBINSON:—*Jurisprudence*. (See p. 41.)

Dr. RAYNOLDS:—1. *Roman Law*; one hour both terms. An elementary course in the History and Institutes of Roman Law and its relation to modern codes.

2. *Comparative Constitutional Law*; two hours second term. A comparative study of the modern constitutional state, especially with regard to the principal forms of constitutional government, the constitution, powers and relations of the governmental departments, and the laws and practices of elections in the various states.

Mr. WHITE:—*Local Government in the United States*; one hour first term. This course treats of the development and present status of the institutions of local government in this country, giving special attention to the government of cities.

Dr. SCHWAB:—*State and Local Taxation in the United States*; one hour both terms. An introduction to the finances of the states, counties, townships, and cities of the United States. The fiscal policy of these corporations is discussed in relation to the finances of the Union. The various sources of their revenues are enumerated. Particular attention is given to the property tax. Finally, American State and local taxation in general is treated of and compared with the corresponding systems of taxation in Europe.

Professor BREWER:—*Physical Geography in its relations to Political History*; one hour first term. A course of about ten lectures discussing the following topics: 1. The relations of man to the region he inhabits; 2. The physical conditions and natural productions necessary for civilization; 3. Natural aids to the defence and protection of communities; 4. Natural facilities for commerce; 5. How the influence of natural conditions is modified by modern inventions.

Professor WHEELER:—1. *English History*; two hours both terms. This course covers two years. The object is to trace carefully the long,

continuous, and, on the whole, orderly development of English political institutions. Special topics are assigned, and the best sources of information indicated. Particular attention is devoted to the early and medieval periods, and for these the work of Bishop Stubbs will be the leading authority.

2. *History of Europe since 1789*. (See p. 41.)

Professor ADAMS:—1. *The Formation of the American Union*; one hour both terms. The course will trace in colonial times the growth of the idea of union and the influence of the Revolution in this direction; somewhat more in detail the formation and adoption of the constitution and since 1789 the growth on the one hand of a stronger union sentiment and on the other of the doctrine of secession.

2. *The Age of the Renaissance*; one hour both terms. Special topics to be selected from the period of the Revival of Learning and the Renaissance will be made subjects of lectures and investigations.

Professor C. H. SMITH:—*American History*; one hour a week through the year. An investigation course in colonial, political, and constitutional history. Topics are assigned to individual members of the class for thorough investigation the results of which are to be presented in theses.

### III. PHILOLOGY; LITERATURE

*Sanskrit and Old Iranian.*

Professor WHITNEY:—1. *Sanskrit*; two hours a week through the year.

A first-year's instruction in Sanskrit, beginning with the instructor's Sanskrit Grammar, and passing on to Lanman's Reader. A sketch of Sanskrit literature is given in connection with the exercises during the latter part of the year.

2. *Sanskrit*; two hours a week through the year. A second-year's course of instruction in Sanskrit.

Dr. TOLMAN:—3. *Old Persian Inscriptions*. The grammatical principles of the language. Its phonetic system compared with that of the Sanskrit. Reading of the Cuneiform texts. One hour a week throughout the year.

4. *Zend*. Geiger's Handbuch der Awestasprache. Selected portions of the Avesta will be read. Comparison of the Avestan and Brahmanical religion. Two hours a week throughout the year.

5. *Cursive Reading*. Informal exercises in the sight-reading of Zend and Sanskrit, one evening in each week. During the present year selected episodes from the Sanskrit epics will be taken up in this way. Discussion of Indian antiquities suggested by the passages read.

*Semitic Languages.*

Professor HARPER:—1. *Historical Hebrew*; two hours second term.

Critical translation of portions of the Books of Samuel, using Driver's "Notes on the Hebrew Text of the Books of Samuel," with a study of (a) Hebrew Syntax; (b) the Hebrew accents; (c) the principles of textual criticism with special reference to the ancient versions.

2. *Hexateuchal Analysis*; two hours second term. Translation and comparison of the several documents of which the Hexateuch is composed, with an examination of (a) the history of Hexateuchal criticism, (b) the grounds upon which the analysis rests, (c) analogies in other portions of the Old Testament for the phenomena presented in the Hexateuch.

3. *The First Isaiah* (chapters i-xxxix); two hours first term. Interpreted in chronological order with special reference to (a) the historical setting of each prophecy, (b) the recent information gained from the Assyrian inscriptions, (c) the fundamental principles of prophecy, and (d) the contrast between the diction, style, historical background, and theology of the first and second Isaiahs. [This course alternates with a similar course on the *Second Isaiah*.]

4. *Pre-Exilic Psalms*: two hours second term. Critical translation of the earlier Psalms with study of (a) the literary and editorial elements in the Psalter, (b) the personal and historical elements, (c) the musical and liturgical elements, (d) the historical background of the various groups of Pre-exilic Psalms. [This course alternates with a similar course on Exilic and Post-exilic Psalms, the history of the growth of the Psalter and, in connection with the Maccabean Psalms, of the close of the Old Testament Canon.]

5. *Old Testament Legal Literature*; two hours both terms. Including a study of (a) the present form of this literature, (b) the contents as classified according to the prevailing element in each case, whether the hygienic, the social, the civil, or the religious, (c) the relation of this literature to other divisions of Hebrew literature, (d) the connection of this legislation with the different periods of Israelitish history, (e) the principles underlying this system compared with those of other ancient legal systems. [This course is given every third year, the others in the series taking up "Old Testament Prophetical Literature," and "Old Testament Wisdom Literature."]

6. *Early Hebrew Traditions and Institutions*; one hour both terms. Including (a) a brief survey of the history and literature of the more important Semitic nations, of Semitic civilization, its characteristics, and its relation to other civilizations, and of the origin of the Hebrew nation; (b) an examination of the traditions found in the earlier Hebrew literature; the account of the creation, the garden of Eden,

the story of the fall, the beginnings of civilization, the longevity of the patriarchs, the deluge account, the confusion of tongues, the earlier patriarchal stories, the residence of Israel in Egypt, the Egyptian plagues, the exodus, the giving of the law, the wandering in the Wilderness, the conquest of Canaan; (c) an examination of the origin and significance of the more important Israelitish institutions: the Sabbath, marriage, sacrifice, circumcision, the clean and unclean, feasts, etc.; (d) a study of the Hebrew State: the various forms of government under which Israel lived; the relation of the Israelitish theocracy to other ancient forms of government; the influence of the principles underlying the Israelitish theocracy upon the origin and early history of the government of the United States. [This course is given every third year, the other courses in the series taking up "Middle Hebrew History," viz., from Samuel to the Fall of Jerusalem; and "Late Hebrew History," viz., exilic and post-exilic (to 63 B. C.).]

7. *Assyrian Language*; two hours first term. A study of the Sennacherib (Taylor-) Cylinder, and of (a) the grammatical principles of the language, (b) the more common cuneiform signs, (c) the use of Assyriological material for lexicographical purposes; using I Rawlinson, and Delitzsch's *Assyrian Grammar*.

8. *Assyrian Syllabaries and Mythological Inscriptions*; two hours second term. Including (a) Syllabaries B and C, Delitzsch's *Assyrische Lesestücke*, pp. 53-67, II. and V. Rawlinson; (b) the story of the Creation, the Deluge Account, the Descent of Ishtar, Delitzsch's *Assyr. Lesestücke*; (c) an examination of the principal features of the Assyrian religion.

9. *Assyrian Historical Inscriptions*; two hours both terms. Including (a) the critical interpretation of the inscription of Tiglathpileser I, (b) a more rapid reading of the remaining inscriptions from before 745 B. C. [This course alternates with a similar course which takes up a critical interpretation of the Ašurbanipal inscription, with a more rapid reading of the remaining historical inscriptions from 745 B. C. to 626 B. C.]

10. *Arabic Language*; two hours first term. A study of the earliest Suras (103, 100, 99, 91, 106, 1, 101, etc.), and of (a) the grammatical principles of the language, (b) the acquisition of a vocabulary, (c) the relation of Arabic, grammatically considered, to the Hebrew.

11. *Earlier Suras of the Kuran*; two hours second term. Viz., (a) those connected with the opening of Muhammed's ministry (96, 112, etc.), (b) those delivered before the Abyssinian emigration (87, 97, 88, 80, 84, etc.), (c) those delivered between the 6th and the 10th years of his ministry (67, 53, 32, 39, 73, 79, etc.); together with (d) a comparative study of Arabic and Hebrew syntax. [This course alternates with a similar course upon the later Suras of the Kuran.]

12. *Arabic Geography, History and Commentary*; one hour. Including (a) selections from the geographical writings of Ibn 'Ajās, El-Iṣṭakhri, Ibn Bāṭūṭa, (b) selections from the historical writings of El-'Uṣṭūṭi, Makrīzi, Ibn Sa'd, (c) Arabic commentary on Suras 71, 81, 95, 101, using Arnold's *Chrestomathia*. [This course alternates each year with a similar course in Arabic Poetry and Inscriptions.]
13. *Phoenician*; one hour first term. Using Schröder's "Die Phönizische Sprache," inscriptions and grammar. [This course is given every third year; the corresponding subjects being Ethiopic and Samaritan.]
14. *Targumic Aramaic*; one hour second term. Including (1) translation of selected portions of the Targums, (2) comparison of special passages with the Hebrew for purposes of textual criticism, (3) special examination of the Targumic idiom; alternating with Biblical Aramaic and Rabbinical Hebrew.
- Dr. R. F. HARPER:—15. *Hebrew Language*; Genesis, i-viii; four hours first term. Including (a) the grammatical principles of the language, (b) acquisition of a vocabulary, (c) translation of English into Hebrew.
16. *Hebrew Readings*; three hours second term. In Joshua, Judges, Samuel, etc.
17. *Babylonian Historical Inscriptions*; one hour both terms. (a) Nebuchadnezzar East India House (I R. 53-58, 59-64); one hour a week, first term.
- (b) New Babylonian Inscriptions (of Nebuchadnezzar, Neriglassar and Nabonidus); one hour a week, second term.
18. *Babylonian Contracts and Psalms*. (a) Contracts, using Strassmaier's *Inschriften von Nabonidus*; one hour a week, first term.
- (b) Psalms, using Haupt's *Akkadische und Sumerische Keilschrifttexte*; one hour a week, second term.
19. *Assyro-Babylonian History*; one hour both terms. (a) Lectures on Assyro-Babylonian History; one hour a week, first term; (b) *The Books of Kings*, and the cuneiform inscriptions; one hour a week, second term.
20. *Esarhaddon, Cylinder A*; one hour first term. (I R. 45-47), with comparison of cylinders B and C and special discussion of the text.
21. *Syriac*; one hour both terms. Using Rödiger's *Chrestomathia Syriac*. This course alternates with a course in Syriac for beginners.
- Mr. CRANDALL:—22. *Hebrew Readings*; two hours first term. In Jeremiah and Ezekiel.
23. *The Books of Chronicles*; two hours second term. Including (1) an examination of the linguistic peculiarities of the books; (2) a comparison of their contents with those of the Books of Samuel and Kings.

MR. GOODSPEED:—24. *The Exilic and Post-Exilic History and Literature*; one hour first term. Lectures discussing (a) the contents and form of the chief literary works of this period, (b) its decisive historical epochs.

25. *Biblical Aramaic*; two hours second term. Including (a) the elements of Aramaic, using Brown's *Manual*, (b) critical study of the Aramaic of the Book of Ezra, (c) reading of similar material in the Book of Daniel, (d) translation and interpretation with discussion of text, literary form, and contents of the Books of Ezra and Nehemiah.

DR. SANDERS:—26. *Hebrew Readings*; three hours second term. In Joshua, Judges, and Kings.

27. *Selected Suras of the Kuran*; two hours first term. With special reference to the principal theological doctrines of Muhammedanism.

28. *The Thousand and One Nights*; two hours second term. Rapid reading of unpointed text.

THE SEMITIC CLUB meets on alternate Wednesday evenings. During the present year its program includes (a) six lectures on "Oriental Life," by the Rev. Henry Clay Trumbull, D.D.; (b) six papers, embodying the results of original investigation in the line of Historical Hebrew Syntax, prepared by members of the club; and (c) six discussions upon living Semitic questions, viz., (1) the Sumerian-Accadian question; (2) Assyrian vs. the Arabic school of lexicography; (3) recent and prospective exploration; (4) the place of Deuteronomy; (5) the relative age of J and E; (6) the date of the Book of Daniel.

THE HEBREW CLUB meets every Tuesday evening for two hours. The entire Hebrew Bible is read in three years. During the present year the club is translating the Hexateuch and the Book of Judges.

#### *Greek.*

PROFESSOR SEYMOUR:—1. *Greek Orators*; two hours a week through the year. A study of Greek Oratory, beginning with the orations of Isaeus, and including some of the private orations of Demosthenes, with reference to Athenian life and law as well as to the development of Attic eloquence.

2. *Pindar and the Lyric Fragments*; two hours a week during the first half-year; with special reference to the growth of Lyric poetry in Greece, and the development of metrical forms.

3. *Homer*; two hours a week during the second half year. Critical but familiar interpretation of the Odyssey.

4. *Homer*; two hours first term. Introduction to the critical study of Homer; interpretation of the first books of the Iliad.

5. *The Phaedo of Plato*; two hours first term. Introduction to the literary and philosophical study of Plato.



6. *Theocritus*; one hour first term.

7. *Homer*; two hours second term. Rapid reading of the principal parts of the *Iliad*.

8. *The Nicomachean Ethics of Aristotle*; two hours second term.

9. *Greek Inscriptions*; two hours second term. Exercises in the interpretation of Greek Inscription based upon Cauer's *Delectus Inscriptionum Graecarum*, as an introduction to the historical study of Greek forms.

10. *The Frogs of Aristophanes*; one hour second term.

Mr. KITCHEL:—11. *Plato*; one hour both terms. The *Apology*, *Crito*, and *Ion*.

Assistant Professor GOODELL:—12. *Attic Orators*; two hours first term. Selections from the orators before Demosthenes (as much as possible of Jebb's edition) will be read with especial reference to the development of oratory and of Attic prose style.

13. *Athenian Political and Legal Institutions*; two hours second term. An introduction to the subject. The private orations of Demosthenes will be made the basis of the work; these will be supplemented by lectures and private reading. It is intended that the class shall gain a clear general idea of the Athenian state, with some notion of the Athenian courts and principles of law. A reading knowledge of German will be useful, but is not required.

Assistant Professor REYNOLDS:—14. *Euripides*; two hours first term. The *Bacchae* and *Iphigenia in Aulis*. This course will include a systematic study of Euripides as a poet, with lectures on scenic antiquities, metres, and mythology.

15. *Euripides*; two hours second term. *Heracles*, *Hippolytus*, *Ion*, and *Suppliants*. (See note to the preceding course.)

Mr. HUNT:—16. *Introduction to the Study of Classical Archaeology*; one hour both terms. Collignon's *Manual of Greek Archaeology* is taken as the text-book and made the basis for a more general study of the subject. Students are referred to works like Baumeister's *Denkmäler*, Mrs. Mitchell's *History of Greek Art*, Perrot and Chipiez's *History of Ancient Art*, and Percy Gardner's *Types of Greek Coins*. The work of the class is illustrated further by the plaster casts of the School of Fine Arts and the University's collection of ancient coins, as well as by numerous photographs.

The Greek Club meets for two hours every Saturday evening, for the reading and discussion of selected portions of Greek literature.

*Latin.*

Professor PECK:—1. *Lucretius*; two hours a week during the first half-year.

2. *Tacitus* (the *Annals*, i-vi); two hours a week during the second half-year.

3. *Early Latin*; one hour a week through the year. Study of inscriptions of the Republic and of fragments of the earliest literature.

In connection with all these courses special topics are assigned for investigation and discussion, as, the Latinity and literary canons of the different authors and periods, the rationale of constructions, historical syntax, pronunciation, etymology, etc.

4. *Latin Poetry*; two hours both terms. Development of poetic forms and styles in Latin, with studies in Lucretius, Horace (Epistles), Tibullus, and Persius.

5. *Latin Prose*; two hours both terms. History of prose composition among the Romans, with illustrative readings from Cicero, Livy, Quintilian (Book x), and Tacitus (Annals).

Professor H. P. WRIGHT:—6. *Juvenal and Martial*; two hours first term. Satires i, iii, iv, v, vii, viii, with selections from Martial, with special reference to a study of the private life of the Romans.

Mr. ABBOTT:—7. *Plautus*; two hours first term. The Aulularia and the Pseudolus.

8. *Cicero's Letters*; two hours second term. Chiefly non-political letters to members of Cicero's family, and to his intimate friends.

*Anglo-Saxon and English.*

Professor BEERS:—1. *English Literature*; one hour a week through the year. The history of English Romanticism from Thomson to Swinburne (1726-1890), with incidental study of the parallel movements in Germany and France. The instruction is given mainly by lectures. Students are required to keep and submit notes of their reading, and to prepare topical papers from time to time.

2. *18th-Century Literature*; two hours both terms. The course embraces selections from the following authors: Swift, Addison, Prior, Gay, Pope, Johnson, Burke, Goldsmith, Sheridan, Fielding, Sterne, Collins, Gray, Cowper, and Burns. Thackeray's "English Humorists," Leslie Stephen's "History of English Thought," and the histories of 18th-century literature by T. S. Perry and Edmund Gosse are used as reference books.

3. *19th-Century Literature*; two hours both terms. The principal English authors from Wordsworth to Swinburne (except Tennyson and Browning) are studied, partly by critical readings in the class room, partly by outside assigned reading in connection with the English loan library, and partly through lectures and reference books.

4. *Milton and his Contemporaries*; one hour both terms. The course includes all Milton's English poems, the Epitaphium Damonis, portions of the Elegiarum Liber, and the selections from the prose tracts included in the "Parchment" edition; together with passages from the lyrical poets of Milton's time, and from the works of Clarendon, Browne, Taylor, Fuller and Izaak Walton.

Professor COOK:—5. *Old English Poetry*; one hour a week, first term. This course is limited to students who have a reading knowledge of German, and an elementary acquaintance with Old English. The texts used are Judith (Cook's edition), Elene (Kent's edition), and The Battle of Maldon (Sweet's Reader). These are read, their place in the literature examined, and questions of authorship, date, and textual criticism discussed. Ten Brink's and Wülker's Histories of Old English Literature are constantly used for reference.

6. *Old English Grammar*; one hour a week, second term. The requirements for admission to this course are the same as for Course 5. An exhaustive grammatical examination of some prose text is made, on the basis of Cook's Phonological Investigation of Old English and edition of Sievers' Grammar for Phonology, of the latter for Inflection, and of March's Grammar for Syntax.

7. *Historical English Prosody*; one hour a week first term. Requirements for admission the same as for Course 5. Schipper's *Englische Metrik* is adopted as the basis of study, but reference is made to the discrepant views of other authorities.

8. *Middle English Grammar*; one hour a week second term. Requirements for admission the same as for Course 5. An Outline of Middle English Phonology and Inflection is given by means of lectures, and the knowledge thus gained is applied in a grammatical study of Chaucer, on the basis of ten Brink's Chaucer's Sprache und Verskunst.

The undergraduate courses in the English Language and Literature (p. 45) are also open to graduate students.

Assistant Professor McLAUGHLIN:—9. *Literary Criticism*. A course designed for training in general literary criticism is based on selected plays from the principal Elizabethan dramatists, and a few later dramatic authors, especially Browning.

10. *Medieval Literature*. The minor poems of Chaucer, *Troilus and Cressida*, and selected Canterbury Tales, and those poems of Tennyson, Matthew Arnold, William Morris, and Swinburne which are drawn from medieval originals, are read critically, in connection with lectures on medieval as influential upon modern English literature, particularly in romance. It is desired that students taking this course should be qualified to read (beside late-classical and medieval Latin), old English, old French, and Middle-High German, and should follow under the direction of the instructor a systematic study of the early treatment of some one of the main topics presented in the poems discussed in the class. A paper containing the result of his investigation of some subject connected with the course is required from each member of the class.

*Modern Languages.*

Professor KNAPP:—I. *Old French and Anglo-Norman*; one hour both terms. Readings in Old French and Anglo-Norman literature by the professor, with lectures on Romance Philology. Oral and written examinations following the completion of each subject. Study of the Norman-French element in English.

2. *French*; two hours both terms. Critical study of Victor Hugo and Balzac, with lectures and examinations on the same, and on the history of Romanticism in France.

3. *French*; two hours both terms. Select readings in Molière, Corneille, and Boileau. Contemporary authors, such as Pierre Loti, Cherbuliez, and Taine. Conversation.

4. *French*; three hours both terms. *Contes Contemporains*, L'Ami Fritz, *Le Roi des Montagnes*, and extracts from Victor Hugo, Sandeau, Karr, and George Sand. Conversation.

5. *Spanish*; three hours both terms. Knapp's Grammar and Modern Readings. Extracts from the Spanish *Gil Blas* and *Don Quijote*. Conversation and composition.

6. *Italian*; three hours both terms. Grandgent's Grammar, *Cuore* by De Amicis, *Checcchi's Italia dal 1815 ad oggi*. Extracts from Petrarch, Ariosto, and Tasso.

7. *Italian. Dante*; one hour both terms. Critical reading of select portions of the *Inferno*, *Purgatorio*, and *Paradiso*.

Mr. BERGERON:—8. *French*; two hours both terms. *Étude analytique des poètes français contemporains*. Origines du romantisme. Histoire de la langue française. Recherches philologiques et historiques sur les gallicismes et les proverbes. Ce cours sera fait en français.

9. *French*; two hours both terms. Composition from books of travel, etc., with special reference to syntax. Phonetics. Oral exercises. Study of synonyms, antonyms, and comparative idioms.

10. *French*; two hours both terms. Rapid reading in contemporary authors, such as Erckmann-Chatrian, Halévy, Mérimée, About. French conversation to acquire a correct pronunciation, current vocabulary, and to fix grammatical forms, syntax, and idioms.

Mr. GOODRICH:—II. *German Drama*; three hours both terms. Critical study of selected plays from Lessing, Goethe, and Schiller.

12. *German. Goethe*; two hours both terms. During the first term, selections from Goethe's shorter poems will be read. The poet's life down to the death of Schiller, in 1805, will be studied, with the aid of selected readings, papers, and lectures. During the second term, *Faust*, Part i.

Mr. GRUENER:—13. *German Prose*; three hours both terms. For rapid reading. Modern fiction. Selections from biography, history, and critical essays.

14. *German Composition*; two hours both terms. Devoted to practice in writing and speaking. Translations into German of narrative prose; selections from history and literature. This course is conducted in German.

15. *Middle-High German*; two hours both terms. Hartmann. Nibelungenlied. Selected poems of Walther von der Vogelweide. Lectures and papers.

#### IV. MATHEMATICS

Professor NEWTON:—1. *Analytical Statics. The Dynamics of a Particle and of a System of Particles.*

2. *The Mathematical Theories of Shooting Stars and Meteors, and Treatment of Observations of them; The Lunar and Planetary Theories.*

3. *Higher Geometry.*

4. *Integral Calculus.* (Cf. p 54.)

Professor CLARK:—1. *Determinants, with applications.*

2. *Theory of Curves and Surfaces.*

3. *Definite Integrals; Differential Equations.*

4. *The Kinematics of a Rigid Body.*

Professor GIBBS:—1. *Vector Analysis*, with special reference to physical applications.

2. *Theory of the Potential*, and allied topics.

3. *Mathematical Theory of Electricity and Magnetism.*

4. *Electro-magnetic Theory of Light.* Propagation of the electrical disturbance in isotropic and aeolotropic media. Reflection at a surface where two such media meet. Dispersion of colors.

5. A short course on *the a priori Deduction of Thermodynamic Principles from the Theory of Probabilities.*

6. *Computation of orbits.*

Professor E. L. RICHARDS:—*Higher Trigonometry.* See p 55.

Professor PHILLIPS:—1. *Solid Analytical Geometry.* See p. 55.

2. *Descriptive Geometry.* See p. 55.

Professor BEEBE:—*Geodesy; Practical Astronomy.* See p. 55.

#### V. PHYSICS; CHEMISTRY

Professor A. W. WRIGHT:—*Experimental Physics.* Direction of practical work in the Sloane Physical Laboratory, with instruction in the principles and methods of physical investigation, the processes and instruments of measurement, and the methods of computing and reducing results of observations. Special attention is paid to practical measurements in electricity and magnetism. The student is expected to make original investigations an important part of his work, and has the free use of the laboratory facilities for carrying them on.

Professor HASTINGS:—A course in *Physics* will consist of laboratory work, supplemented by lectures on the theory of observation, with the method of least squares, and, each year, some special department of physics will be selected for detailed treatment in a course of lectures and conferences. Lectures on the theory of electricity and electrical instruments occupy six months. The use of the laboratory is at the command of the student at all times.

Professor GOOCH:—*Experimental, Analytical and Theoretical Chemistry*. The courses offered to undergraduates in experimental chemistry (inorganic and organic) and in analytical chemistry (qualitative and quantitative) are open to graduates, and a course of reading and discussion of modern theories and current chemical doctrines may be taken by students who have had the proper preliminary training. In addition, the facilities of the Kent Laboratory and opportunity to engage in special lines of investigation are placed at the disposal of graduate students who are sufficiently advanced to undertake such higher work.

Professor JOHNSON:—*Organic Chemistry*. Paraffines and their derivations, two hours weekly throughout the year; Aromatic Compounds, two hours a week during the first term. Systematic review of the various classes of carbon compounds, with study of substances that illustrate current chemical doctrines or are important in nature and in the arts. Experimental demonstrations.

Professor WELLS:—*Analytical Chemistry*; including a systematic course in Qualitative Analysis, a systematic course in Quantitative Analysis, and such special branches of Quantitative Analysis as are applied to Mineralogy and various departments of Metallurgy.

Instruction in analytical processes and chemical principles involved in them, is given to each student separately in the laboratory. Laboratories are open seven hours daily (except Saturdays).

Professor CHITTENDEN:—*Physiological Chemistry*. Graduate students having sufficient knowledge of analytical chemistry and physiology are received into the Sheffield Biological Laboratory at the beginning of the academic year, where they can pursue a course in physiological chemistry and toxicology, extending throughout the entire year. The course necessitates, on an average, four hours of laboratory work per day, and attendance on lectures and recitations three or four times per week. Opportunities are also afforded for the carrying on of original investigations, either in physiological chemistry or experimental toxicology, and to students qualified for such work the laboratory is open during the entire day.

Students desirous of studying any special subject in physiological chemistry and having but a limited amount of time are also received, provided they are qualified by previous work to pursue the study advantageously.

## VI. GEOLOGY; NATURAL HISTORY

Professor J. D. DANA:—*Geology*. The subjects taught in the course are Physiographic and Lithological Geology, with Historical and Dynamical Geology in alternate years; and for an advanced elective, the reading and discussion of original memoirs and other publications in all these departments, together with work in the field. For practical illustration of the various subjects, the instruction is supplemented by excursions to regions, severally, of sedimentary, metamorphic, and igneous rocks; of variously flexed, jointed, altered, and degraded rocks; of seashore action and its results; of glacial, fluvial, and other Quaternary phenomena; excellent localities for the study of these various subjects are found in the vicinity of New Haven, but excursions extend also to neighboring parts of New England and New York.

Professors BRUSH, E. S. DANA, and PENFIELD:—1. *Mineralogy*, in its different branches: (1) Descriptive Mineralogy: including the study of mineral species individually and in their relations to each other in composition, association, and so on. (2) Crystallography and Optical Mineralogy: the study of the mathematical relations of the forms of crystals, the measurement of crystals on the goniometer, and their practical determination; also, the study of the optical characters of the different groups of crystals, the determination of the position of the axes of light-elasticity, measurement of indices of refraction, of the optic axial angles, etc. (3) Determinative Mineralogy and Blowpipe Analysis: the study of the use of the blowpipe and its application to the determination of a mineral species.

2. *Microscopical Petrography*; the methods of research and the use of the microscope, the practical study of rocks in thin sections and in hand specimens.

Professor EATON:—*Botany*. At present there are no facilities for the profounder study of Vegetable Physiology. Structural Botany is taught in a practical way to the extent of preparing and examining microscopic specimens of the various tissues and elements found in phænogams, and in cryptogams, exclusive of fungi, including the use of the ordinary solvents, dyes, reagents, and mounting media used in this study. For the study of the North American Flora generally, and the higher order of cryptogams, with regard to their identification and geographical distribution, the facilities are excellent, and, under proper restrictions, students may have the privilege of consulting the very extensive private collections of the professor in charge.

Professor VERRILL:—*Zoology*. The course includes laboratory practice, recitations, readings, and lectures. The laboratory work is varied according to circumstances, in order to accommodate, so far as pos-

sible, those students who may wish to pursue special branches. A large part of the time is usually devoted to Comparative Anatomy, Morphology, and Systematic Zoology. Ample collections in the Peabody Museum, representing all classes of animals, are available for instruction, while the proximity to the sea renders it easy to provide fresh or living examples of most classes of marine animals for study and dissection.

All students in this course should be familiar with the use of the microscope. A knowledge of drawing sufficient to enable the student to make sketches of the subjects studied is very desirable.

Professor S. I. SMITH:—*Comparative Anatomy and Histology*; two to four half-days a week during the first term. Laboratory instruction is given with special reference to preparation for medical studies, or as a preparation for further biological study and investigation. The instruction is adapted as far as possible to the special wants of the individual student.

During the last part of the second term, graduate or special students who desire to do so may attend the short course of lectures on embryology, with special reference to human morphology given to undergraduates in the course in biology (see above, p. 96).

## VII. APPLIED SCIENCE

Professor DuBois:—*Practical Astronomy*. Instruction, especially adapted to candidates for the degree of Civil Engineer, is given in practical Astronomy applied to Geodesy, using as guides the treatises of Loomis and Doolittle. The practical instruction embraces the use

(1) Of the Theodolite or Surveyor's Transit, for determining time, latitude, and azimuth;

(2) Of the Sextant and Reflecting Circle for time, latitude, and longitude;

(3) Of the combined Portable Transit instrument and Zenith Telescope for time, latitude by Talcott's and other methods, longitude by moon culminations, etc. The instrument used is of three-feet focus and 2.6 inches aperture, with fine alidade level and position filar micrometer.

(4) The Meridian Circle (with five-foot telescope) is also available for transit and other observations, as well as the Clark Equatorial of nine inches aperture, and a five-foot portable telescope by Clark, for occultations and other work.

Special students in Practical Astronomy are permitted to take up such branches of the subject, with the use of any of the above-mentioned instruments, as may best suit their purposes.



The time devoted to the subject will vary with the taste and purpose of each student and the time at his disposal. But for the degree of Civil Engineer, a good familiarity with the instruments named in 1, 2, and 3, as well as with the corresponding computations and practical problems, is required.

Professor JOHNSON:—*Agricultural Chemistry*; two hours a week, through the year. This course includes the following topics: the Atmosphere, Water, and Soil, in their various relations to Vegetation; Tillage; Fertilizers; Rotation of Crops; Irrigation.

Professor C. B. RICHARDS:—*Mechanical Engineering*. This course, arranged for candidates for the degree of Mechanical (or Dynamical) Engineer, is also open to Special Graduate Students, who will be allowed in certain cases to take selected parts. The leading topics are:

(1) *Applied Mechanics*; including graphical methods in applied kinematics, and in the investigation of mechanisms working with friction; graphical determinations of the accelerations of the moving parts of machines; the strength of materials as affecting the proportions of machine elements; the applications of the principles of hydraulics to the construction and working of turbines and pumps.

(2) *Thermo-dynamics*; applications to the compound steam-engine, air compressors and compressed air motors, engines worked by volatile vapors, refrigerating machines, the warming and ventilation of buildings.

(3) *Machine Design*; in this course the student is engaged in practical exercises under the guidance of the professor in charge, investigating machinery, and designing and making working drawings, specifications, and estimations for machines and manufacturing plant. In addition to the study of machines in general, either of the following subjects will at the option of the student receive particular attention; (a) Marine Engineering; (b) Railway machinery; (c) Pumping machinery and plant; (d) Machinery and plant for manufacturing. The student is required to make complete drawings, from new designs, of at least one important piece of machinery under one of these subjects. A compound marine engine and boilers, a locomotive, a turbine, driving centrifugal pumps, a blowing-engine for an iron furnace, are examples.

Candidates for the degree of Mechanical Engineer are required to take also a selected course in Mathematics, to sustain a final examination, and to present a satisfactory thesis on a subject approved by the professor in charge of the course.

A course in applied electricity, and, when the facilities in the physical laboratory permit, a course of laboratory work under the superintendence of the professor in charge; also, lectures on industrial

Legislation and Finance, and lectures on the higher Mathematics, are open to all students in this course.

Professor DuBois:—*Civil Engineering*. This course offers instruction for advanced graduate students, as well as for those students who may be regular candidates for the degree of Civil Engineer. It embraces the following topics:

(1) *Mechanics applied to Engineering*; including a course in Hydraulics, with reference to the various problems which arise in connection with water-supply, water-power, or irrigation; the efflux of water, flow through orifices and mouthpieces and over weirs, simple and submerged; questions of overflow and land damage; the effect of friction, contraction, enlargement, bends, valves, etc.; measurements of the discharge of pipes, rivers, and streams; the theory and design of water-motors; a course in Thermo-dynamics and its practical application to hot-air, gas and steam engines, and the heating and ventilation of buildings.

(2) *Surveys and Geodesy*; including methods of observation, base measurements, triangulation field work, theory of least squares, adjustment of observations, calculation of the triangulation, and computation of geodetic latitudes, longitudes, and azimuths.

(3) *Construction and Design*; including the strength and properties of materials, construction and design of bridges, roofs, foundations, retaining walls, dams and embankments, masonry, arches, sewerage and drainage, improvement of rivers and harbors, specifications and contracts, and the preparation of designs and working drawings.

Candidates for the degree of Civil Engineer are required to take, in addition, a selected course in Mathematics, Practical Astronomy, and when the facilities in the physical laboratory permit, a course of laboratory work, under the superintendence of the professors in charge. They are also required to sustain a final examination, and to present a satisfactory thesis accompanied by appropriate designs, upon a subject approved by the professor in charge of the course.

To special students, not candidates for the degree of Civil Engineer, a selection of special topics is allowed. The lectures of the Department upon Railroad Administration, Industrial Legislation and Finance, and upon the higher Mathematics, are open to all the students in this course.

## VIII. FINE ARTS; MUSIC

For the instruction offered in the Fine Arts, see the next page.  
For instruction offered in Music, see p. 56.

# SCHOOL OF THE FINE ARTS

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## COUNCIL

The Council of the School consists of the President of the University, the permanent officers of the School, and four members by election : Donald G. Mitchell, LL.D., Edward E. Salisbury, LL.D., J. Davenport Wheeler, PH.B., and William W. Farnam, M.A.

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## FACULTY

Rev. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT

JOHN F. WEIR, N.A., M.A., *Director, and Professor of Painting*

Rev. JAMES M. HOPPIN, D.D., *Professor of the History of Art*

JOHN H. NIEMEYER, M.A., *Professor of Drawing*

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FREDERIC R. HONEY, PH.B., *Instructor in Perspective*

JOHN P. C. FOSTER, M.D., *Instructor in Anatomy*

—————, *Instructor in Architecture*

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MARY THOMPSON, *Librarian*

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## ORGANIZATION AND COURSE OF STUDY

The School aims to provide thorough technical instruction in the Arts of Design, viz: Drawing, Painting, Sculpture, Architecture, and Copperplate Etching ; and to afford a knowledge of such branches of learning as relate to the Philosophy, History, and Criticism of Art. As a professional School of Art it aims to furnish a thorough course of study in the practice of the studios ; and as a department of the University it aims to provide instruction in Art as a constituent part of the scheme of general culture. These departments, of Practice and Criticism, may be regarded as distinct or correlative.

## THE TECHNICAL COURSE

The technical instruction, for professional students, is based upon methods well adapted to discipline the aesthetic faculties and ground the pupil in the elements, or fundamental principles, which constitute the grammar of Art, as a foundation for all forms of special application. This instruction is arranged as follows :

IN DRAWING, the work is distributed over a three years' course. During the first year the practice of the studio is confined to drawing from the "Antique," from plaster casts ; during the second year, to drawing from casts and the living model ; and during the third year, to drawing from the living model, nude and draped. The classes under the supervision of the Instructor in this department are the antique portrait, nude-model, sketching, and composition classes ; and until the Chairs of Sculpture and Copper-plate Etching are filled, these branches are included under the same supervision. Students showing the requisite proficiency in any class, will be advanced to the work of the second or third year according to individual ability. Instruction in this department precedes all special courses in the various branches of Art ; no pupil is allowed to enter any of the advanced classes without this necessary qualification in that degree of proficiency which is deemed essential as a preliminary ground for such studies. Lectures on the principles of decoration, as applied in the various branches of Decorative Art, are included in this department ; and a special course in "free-hand drawing" is arranged to meet the requirements of students in the Sheffield Scientific School, extending through the first term of the year.

IN ANATOMY, instruction is given in the form of lectures, and by drawings made from specimens and casts. The lectures are divided into two courses, for elementary and advanced classes. Each course consists of twenty lectures, one lecture a week to each class, continuing through the Winter and Spring Terms. The elementary course is devoted to the study of such portions of the human body as manifestly affect the external forms, the aim being to familiarize the pupil with the characteristics of those parts, independently of their combined action in modifying the external forms. Drawings of these parts are made by the pupils, in connection with the subjects discussed by the lecturer. The advanced course includes the whole structure of the human form in its plastic anatomy and mechanism. The skeleton and muscular system are viewed as a whole, and the modification of the external forms studied in action and repose. The subjects of proportion, equilibrium and motion, and expression, are studied, and original drawings

required in illustration, made from life, or from Greek sculptures, by reducing the same to their anatomical structure by the imagined removal of the integument.

IN PERSPECTIVE, the instruction is likewise given in the form of lectures, divided into two courses of twenty lectures each, for an elementary and an advanced class, illustrated by examples drawn on the black-board, illustrating the principles under discussion. The lectures are supplemented by practical exercises. The student is required to work out examples in the interim between the lectures. The elementary course includes the principles of plane geometry underlying perspective,—simple projections, or plan and elevation drawings. Objects are treated with reference to their true dimensions, as preliminary to their correct representation on a flat surface, as seen in perspective, at various distances, and from different points of view. The advanced course includes the study of shadows and reflections, and the application of the general principles of perspective to interior and exterior views. The pupil is required to work out problems in illustration of all the principles involved in linear perspective in its application to the various branches of art.

IN PAINTING, the work is divided into an elementary and an advanced course of study. The first studies are devoted to the acquisition of a knowledge of the elements of technical practice, by painting from still-life. When the pupil has acquired some knowledge of the means in representing objects in color, as to their value and relations, the remainder of the course is given to studies of the living model, in portrait, figure, and composition. This is continued while the pupil remains in the School. The course in painting implies, on the part of the pupil, a requisite knowledge of drawing, and drawing from the living model is continued throughout the course in connection with the work in color. The practice of the studio is supplemented by illustrated lectures on Color, Chiaroscuro, Composition, and such other special topics as relate to the principles and means of Art, or are comprehended in its theory and practice.

IN MODELING, a course is provided, including the anatomical lectures, and drawing. The work in this branch of instruction consists in first modeling in clay, from casts of Greek fragments, the head and other extremities of the human form, and then the whole figure. When the student has sufficient command of the method and means, the rest of the course is devoted to modeling from the living subject.

IN ARCHITECTURE, the course includes drawing, as provided in that special department in its elementary instruction, as well as the course in isometric projection and perspective. Under the instructor in Architecture, studies are made from notable examples of the various orders

and styles, in chronological order, with original projects in illustration to be worked out by the student. The means and methods of preparing plans, elevations, sectional and working drawings, and perspective views in India-ink and water-color, are comprehended in the elementary part of this course. Arrangements may be made with other Departments of the University, by which students in Architecture can obtain the requisite instruction in mathematical subjects having a direct bearing on this art, including plane geometry, stone-cutting, the nature and strength of materials, and the principles of construction and engineering.

The course includes a general and comprehensive view of the historic development of the various architectures, with a comparative analysis of the same with respect to their principles of construction and decoration.

IN COPPER-PLATE ETCHING, a course is provided, and a room set apart for this special study, containing all the necessary appliances of this art, including a press. The instruction in this branch of art is, for the present, in charge of the Professor in Drawing.

#### COURSE IN THE HISTORY AND CRITICISM OF ART

The instruction in this department includes courses of lectures by the various Instructors of the School, arranged to include both professional students in regular course, and classes from other departments of the University where it is recognized as an "elective" study.

IN THE HISTORY OF ART, the course is as follows: 1. *The Origin and Philosophy of the Art* principle—books chiefly referred to, Hegel, Lotze, Ruskin; 2. *Egyptian Art*—Perrot and Chipiez' "*Histoire de l'Art de l'Antiquité*," etc.; 3. *Oriental Art*, with special reference to its influence on Greek Art—Schnaase, Fergusson, Perrot and Chipiez, etc.; 4. *Greek Art*, Principles of Greek Art; Pelasgic construction, and the three orders of Greek Architecture; Greek Sculpture, including the Archaic, Phidian, and Naturalistic periods, and the Graeco-Roman, with recent researches at Olympia and other places; *Greek Painting*, Ceramic, Mosaic, and Mural—Winckelmann, Lessing, Ottfried Müller, J. Overbeck, Schnaase, Friedrichs, Charles Blanc, and Woltmann; 5. *Roman Art*, Fergusson, Dennis, Emil Braun, etc.; 6. *Beginnings of Christian Art*, classic sources and types; Religious Art; early Christian Painting and Iconography; early Christian Architecture—Lindsay, Fergusson, etc.; 7. *Byzantine Art*, Oriental, Christian, and Saracenic forms—Fergusson, Ruskin, etc.; 8. *Medieval Art*, Romanesque and Lombardic; Tuscan, Southern and Northern Gothic—Viollet-Le-Duc, Ruskin, Fergusson, etc.; 9. *The Renaissance*; rise of the Florentine

School, and the Schools of Sienna, Umbria, Lombardy, Rome, and Venice—Vasari, Lanzi, Kugler, Ruskin, Crowe and Cavalcaselle, Symonds, etc.; 10. *Modern Art*—Schools of Spain, Holland, Germany, France, and England; the Pre-Raphaelite, Romantic, and Impressionist movements; Art in America. The lectures are illustrated by means of the hydro-oxygen lantern.

IN THE PRINCIPLES AND MEANS OF ART, a course of twelve lectures is provided, fully illustrated, embracing the subjects of Line, Chiaroscuro, Color, Composition, and Expression,—following the path of the artist in his work. A course of twelve lectures discussing the technical methods of the Painter, the Sculptor, the Architect, and the Engraver, including an historic account of the technical development of these arts, is also provided.

The regular prescribed course of study, for professional students, covers a period of three years, but pupils are encouraged to remain in the School and pursue advanced studies after the expiration of the prescribed term. The fees are at the rate of twelve dollars per month, with an annual fee of five dollars. No pupil is received for a term of less than three months. The tuition fee for a fourth year's attendance is one-half the usual rate; pupils remaining for a longer period are classed as "honorary students;" as such they are exempt from the payment of a tuition fee, but are charged an annual fee of ten dollars. The School is open to both sexes; no pupil is received under fifteen years of age. All applications for admission should be made through the Director. The School opens on the 1st of October, and the closing exercises are held on the 1st of June. At the end of the School-year an exhibition of the work of the various classes of pupils is held, continuing open through the summer months.

CERTIFICATES are awarded to pupils remaining in the School through the regular course of three years; and a DIPLOMA is awarded, on the ground of merit alone, to such students as fulfill all the requirements of a prescribed course of advanced studies in the several departments of instruction.

The "ETHEL CHILDE WALKER PRIZE," the income from a foundation of two hundred dollars, is awarded annually, under certain restrictions, to the most deserving pupil in the professional department.

THE ART LIBRARY, containing a collection of technical hand-books, current art-periodicals, and portfolios of engravings, is open, during specified hours, for the use of students. The pupils of the School are entitled to the use of the University Library, and to such other privileges, under the usual restrictions, as are granted to students in the other Departments.

Season-tickets, at fifty cents each, admitting the holder to the Galleries and Exhibitions throughout the year, are furnished to the undergraduates of all Departments of the University.

THE COLLECTIONS embrace the "Jarves Gallery of Italian Art," numbering one hundred and twenty-two paintings dating from the 11th to the 17th centuries; the "Ehrich Gallery of Dutch and Flemish Art," numbering one hundred and sixty-five paintings; the "Trumbull Gallery" of historical portraits and other works, numbering fifty-four pictures; a collection of contemporaneous art, numbering about fifty paintings; a collection of about one hundred and fifty casts and marbles, representative of the various periods of Greek and Renaissance Art; a valuable collection of Chinese porcelains and bronzes, loaned by Mr. Frederick Wells Williams; a series of very valuable Belgian wood-carvings of the 16th century, deposited in the School by Mrs. A. C. Alden; and a collection of Braun autotypes, and other reproductions, numbering about two hundred. The Collections are open daily for the use of students; and to the public, during the winter, from 1 to 5 P. M., and during the summer from 9 A. M. to 6 P. M.

The Art Building was erected in 1864, by Mr. Augustus R. Street (Yale College 1812), of New Haven, at a cost of about \$220,000. The School was partially endowed, to the extent of \$81,500, by Mrs. Street, who also made other gifts in aid of its objects.



## DEPARTMENT OF THEOLOGY (YALE DIVINITY SCHOOL)

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### FACULTY

- REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT  
REV. GEORGE E. DAY, D.D., *Professor of the Hebrew Language and Literature and Biblical Theology (Old Testament), and Dean*  
REV. SAMUEL HARRIS, D.D., LL.D., *Professor of Systematic Theology*  
REV. GEORGE P. FISHER, D.D., LL.D., *Professor of Ecclesiastical History*  
REV. LEWIS O. BRASTOW, D.D., *Professor of Homiletics and the Pastoral Charge*  
REV. GEORGE B. STEVENS, PH.D., D.D., *Professor of New Testament Criticism and Interpretation*  
FRANK C. PORTER, B.D., PH.D., *Instructor in Biblical Theology (New Testament)*
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- MARK BAILEY, M.A., *Instructor in Elocution*  
WILLIAM R. HARPER, PH.D., (*University Professor of the Semitic Languages*), *Instructor in Hebrew*  
GUSTAVE J. STOECKEL, MUS.D. (*University Professor of Music*), *Instructor in Vocal Music*

### SPECIAL LECTURERS

- REV. JAMES STALKER, D.D., LYMAN BEECHER LECTURER *on Preaching*  
REV. JOHN HALL, D.D., LL.D. (Subject to be announced)  
REV. WILLIAM M. TAYLOR, D.D., *on the Devotional Services in Public Worship*  
HON. EDWARD J. PHELPS, LL.D., *on International Relations as affecting the Peace of the World*  
REV. FRANK W. GUNSAULUS, D.D., *on the Higher Ministries of Contemporary English Poetry*  
LEONARD J. SANFORD, M.D., *on the Preservation of Health*

The annual term of study, commencing on Thursday, September 25, 1890, will continue until the third Wednesday in May, 1891, when the Anniversary and the Annual Meeting of the Alumni will be held. The next term will begin on Thursday, September 24, 1891. The School is open, on equal terms, to students of every Christian denomination. Blank forms of application may be obtained by addressing the Dean of the Faculty, Professor George E. Day, or any of the other Professors.

#### CONDITIONS OF ADMISSION

The conditions of admission are membership in some evangelical Church, or other satisfactory evidence of Christian character, and a liberal education at some College or University, or, in exceptional cases, an equivalent preparation for theological studies.

It is expected that every student will be promptly on the ground at the beginning of the session. Rooms are assigned in the order of application, but no room is reserved for any applicant who neglects to appear, beyond one week after the opening of the term.

#### COURSE OF STUDY

The regular Course of Instruction occupies three years, and is arranged in the following order :

##### JUNIOR YEAR :

Professor DAY will lecture once a week on the Encyclopedia and Literature of Theology, including a survey of the various branches of Biblical Literature, and an account, more or less extended, of the prominent writers and their works in the several departments of theological science.

Professor HARPER will give instruction five times a week in the grammatical principles of the Hebrew language in connection with the first eight chapters of Genesis; translation of these chapters from English into Hebrew and the acquisition of a vocabulary in the ground covered in his Introductory Hebrew Method. In addition to this preliminary work, the class will (1) read at sight Judges, Ruth, I and II Samuel, and selected Psalms; (2) read critically Deut. i-xi, with study

of Hebrew Syntax, especially the tenses and the sentence; (3) read analytically Genesis, Exodus i-xx, and some of the more important laws in Exodus, Leviticus, and Deuteronomy, with a study of the facts, principles, and theories of Hexateuchal criticism. Provision is made for the instruction of an advanced section in Hebrew, which, during the coming year, will make a careful examination of the facts and principles of the Mosaic legislation.

Professor STEVENS will give instruction five times a week in the critical study of the Greek New Testament. The work of the year will include two courses. The first will be a study of the Life and Teaching of Christ as presented in the Synoptic Gospels. The work will be conducted on the basis of Mark, with constant reference to the parallel passages. The second course will consist of studies in general and special introduction to the New Testament, including the principles and methods of textual criticism. In connection with this course, one or more Epistles will be critically read and other books of the New Testament will be analyzed and their main course of thought carefully traced. Essays on themes connected with critical New Testament study will be presented by the students and discussed in the presence of the class.

Professor HARRIS will lecture twice a week on the Philosophical Basis of Theism, and the Self-Revelation of God.

#### MIDDLE YEAR:

Professor HARRIS will lecture five times a week on Systematic Theology. This course will include a full and systematic investigation of the doctrines of Christianity, and of existing questions and controversies concerning them. The subjects will be treated in the following order: The Attributes of God; The Trinity; God, the Creator, and his End in Creation; God's Providential Government; God's Moral Government; Sin; Redemption—the Atonement, Regeneration, Justification by Faith, the Spiritual Life; the Kingdom of Christ on Earth, its Progress and Triumph; Eschatology. Examinations on the topics discussed will be connected with the lectures, and entire freedom of question and discussion at every lecture is invited.

Professor DAY will give instruction in Old Testament Biblical Theology, with special reference to the progressive stages of Divine revelation, as connected with the History and Religious Institutions of the people of Israel, Prophecy, and the Wisdom of the Hebrews. He will also give instruction in Biblical Aramaic to such members of the class as may desire it.

Professor HARPER will read with the class (1) the more important prophecies of Isaiah, in connection with which there will be considered the entire work of Isaiah, and the principles of Old Testament prophecy;

(2) the earlier Psalms, with a general study of the Hebrew Psalter, its origin, structure, and contents.

Professor FISHER will give instruction three times a week on General Church History, embracing especially the branches of the subject which are not included under the History of Doctrine. They comprise the following topics: The Nature, Divisions, and Sources of Church History, with a review of the Literature on the subject; the Old or Preparatory Dispensation in its relation to Christianity; the condition of the Græco-Roman World at the Introduction of the Gospel; the Establishment of Christianity, and the Conflicts of the Apostolic Age; the spread of Christianity, including especially the Conversion of the Roman Empire and of the Teutonic Nations; the Changes in Ecclesiastical Polity in the Early Centuries; the Organization of Latin Christianity under the Papacy; the relations of the Papacy and the Church to Civil Society in the Middle Ages; the Protestant Reformation, with its Causes and the Systems of Polity adopted by the different Protestant Churches; Christian Life, and its Characteristic Features in the Successive Eras (including the Rise and Subsequent History of Monasticism); the History of Christian Worship.

Professor STEVENS will lecture twice a week upon the Epistles to the Romans and Corinthians with special reference to their doctrinal and practical contents.

Professor BRASTOW will give a preliminary course of lectures in Practical Theology, including an introduction to Homiletics and some discussion of the principles of Rhetoric as applied to the work of Christian preaching with special reference to the cultivation of an appropriate pulpit style.

#### SENIOR YEAR:

Professor BRASTOW will give instruction five times a week, by lectures and critical exercises, in different branches of Practical Theology, as follows: he will lecture four times a week during the first half of the year on Homiletics, and twice a week will conduct a class exercise in the criticism of sermons and plans of sermons. It is proposed to make these practical exercises a prominent feature in the course. He will, also, give private instruction, at least once during the year, to each member of the class in connection with the criticism of sermons, and will give personal aid in the study of Homiletical and General Literature. He will lecture three times a week upon Pastoral Theology, during the last half of the year, including the calling, training, and personal and official duties of the Christian ministry, with special reference to the leadership of the church in its various practical activities as connected with the interests of the Kingdom of God. He will also conduct class discussions of questions of practical interest relating to the work of the church.

Professor FISHER will lecture three times a week, through the year, on the History of Christian Doctrine and on Symbolical Theology. The course includes an explanation of the Origin of Theology as a Science, and a Discussion of True and False Theories of the Development of Doctrine; a Survey of the Influence of Philosophy on Theology in the Successive Eras; a Review of Authors in the field of Theological Literature; a History of Theological Thought in the Church, in relation to the several Doctrines of the Christian system, down to the present time; an account of the Comparative Tenets of the different religious bodies into which Christendom is divided.

Mr. PORTER will give instruction twice a week in the Biblical Theology of the New Testament. The aim and method of the science will be considered. The teaching of Jesus and the different types of Apostolic teaching will be studied in their historical character and in their relations to one another and to the religious ideas of the time. The views of important writers on the subject will be critically examined, and special topics will be assigned for investigation by the members of the class.

Professor DAY will lecture once a week on portions of the prophetic books of the Old Testament, and will read once a week or oftener with those who wish to prosecute the study of Syriac, the Peshito version of the New Testament.

President DWIGHT will lecture twice a week on one or more of the books of the New Testament.

#### GRADUATE OR FOURTH YEAR CLASS

Into this class, which was established in 1879, only those who have completed a three years' course in this or some other Theological School can be admitted. It is designed to meet the wants of those who desire to pursue an advanced course of general theological study, or to apply themselves to special subjects of reading or investigation in any of the departments of theology for one year or more, under the advice and direction of the Professors and with the helps furnished by the Reference and University libraries.

For the year 1890-91 the following Subjects of Special Study are announced, not excluding others which may be desired by members of the Class:

- I. Ex-President PORTER: Special Topics in Philosophy and Theology.
- II. Professor DAY: Critical Reading of Riehm's Old Testament Introduction, with discussion by the Class.

III. Professor HARRIS: Christian Ethics; text-book, Martensen's Christian Ethics, General, Individual, Social.

IV. Professor FISHER: Comparative Study of the Religions of the World.

V. Professor BRASTOW: The Topic in Preaching; the Homiletic use of the Parables, a discussion of the Principles of Christian Pedagogics.

VI. Professor STEVENS: Weiss's Life of Christ: Comments on this work, with conversational discussion, and special investigations by members of the Class.

VII. Mr. PORTER: Schürer's History of the Jewish People in the time of Christ; with special reference to the literature and thought of Judaism at this period as bearing upon New Testament interpretation.

For the year 1891-92, similar courses, or others which may be determined upon in consultation with the Professors and may be desired by the students, will be pursued. Students will also be aided in their private reading and investigations by the Professors.

Members of the Graduate Class are expected to express the purpose of continuing at the Seminary during the entire term. They will be furnished with rooms free of rent, and no charge will be made for instruction or use of libraries.

#### OPTIONAL STUDIES IN EITHER YEAR:

Professor HARPER will admit students who desire to pursue the study of Arabic or Assyrian into his graduate class, free of charge.

Professor DAY will read with those students who desire to become familiar with the theological literature of Germany and have made sufficient progress in the language, some standard work in German on Christian doctrine, with critical remarks and references to the ablest works on special topics.

Professor WHITNEY will give instruction to those who desire it in Sanskrit.

Instruction in Vocal Music will be given to students who desire it, by Dr. STOECKEL, the Professor of Music in the University.

Professor LADD's University Course on Psychology, Metaphysics, the Theory of Cognition, and the Philosophy of Religion, is particularly intended to meet the wants of Theological Students. A select number of advanced pupils in Philosophy will also be admitted to the course in Lotze's Microcosmus.

The members of the Theological School, on conditions prescribed by the Faculty, are also allowed to attend, free of expense, any of the lec-

tures in the College, and also in the Sheffield Scientific School, many of which are on subjects of special importance to pastors. These lectures are on the following subjects: *Intellectual Philosophy*, by Professor LADD; *History*, by Professors WHEELER and ADAMS; *Evolution and Cosmogony*, by Professor DANA; *Language*, by Professor WHITNEY; *Physical Geography*, by Professor BREWER; *Agricultural Chemistry*, by Professor JOHNSON; *Practical Agriculture*, by Professor BREWER; *Botany*, by Professor EATON; *Zoology and Entomology*, by Professor VERRILL.

Those who intend to become Foreign Missionaries have the further privilege of attending the lectures in the Medical School, on the payment of the matriculation fee of five dollars.

These opportunities for obtaining wider culture will be of special value to graduates of Colleges and others who desire the means of pursuing studies to which they have not attended, or in which they seek further instruction.

#### ELOCUTION :

A thorough course of instruction in Elocution is given to the students which is progressive in its character and extends through the three years of study for each class.

To the Junior Class a full course of lectures is given on the principles of logical and emotional analysis and expression, and on oratorical action and vocal culture. This is followed by individual practice in speaking and reading.

In the Middle year is added extended and frequent special practice in Scripture and hymn reading and the reading and delivery of sermons.

To the Senior Class the instruction is given mainly in private lessons, and is designed to meet, so far as possible, the special needs of each individual in his preparation for the duties of the preacher's office.

#### SACRED MUSIC :

I. Harmony: two hours a week, acoustics, intervals, formation of scales, chords and their combinations, modulation, suspension and harmonization of melodies, with special reference to sacred song.

II. Singing: two hours a week, reading music at sight and elementary instruction in vocal culture.

The course in harmony will be the same as course 1 in the Academical Department. If any of the theological students should desire to continue their musical studies after having completed the course in harmony they may do so in connection with the musical instruction offered as course 2 in the Academical Department. (See p. 56.)

## EXERCISES IN PUBLIC SPEAKING:

There will be for all the classes in the MARQUAND CHAPEL, under the direction of Professor BRASTOW and in the presence of the Faculty, once in two weeks, the delivery of an address, followed by criticism and discussion. Every alternate week there will be an exercise, designed to cultivate the power of the students in *extemporaneous speaking*, by the discussion of subjects of practical importance. Weekly debates are also held by the students in societies of their own.

## LICENSE TO PREACH

The regular time for applying for license is at the close of the second year's study, before which time the members of the Seminary are not allowed to preach.

## PUBLIC WORSHIP

Prayers, with reading of the Scriptures and singing, are attended every morning in the MARQUAND Chapel. It is optional with each student whether to attend worship on the Lord's day in the College Chapel, or in one of the City Churches; but whatever may be his decision, it is hoped that he will engage, so far as may not be inconsistent with the prosecution of his studies, in some form of City Mission, Sabbath School, or other benevolent labor, for which constant opportunities are offered.

## DEGREE

The Degree of Bachelor of Divinity is conferred by the President and Fellows of the University on all members of the School who at the end of the Senior year pass the prescribed examination, and present an approved thesis on some topic of theology.

## LIBRARIES

The *University Library*, containing nearly 150,000 volumes in the various departments of literature and science, is especially rich in its theological part, and stands in this respect among the first libraries in the country. It is open seven hours on every secular day for consultation and for



the drawing of books. The Divinity students in common with the other members of the University have access to it without charge.

The *Reference Library* of the Divinity School, established by the late Henry Trowbridge, Esq., of New Haven, and now placed in the Bacon Memorial Hall (erected by the late Frederick Marquand, Esq.), is open for consultation during several hours of the day. It contains more than 3,000 carefully selected volumes, in every department of theological literature, and is designed to take the place, for each student, of a large and well selected private library. The latest books and periodicals are constantly added to it as they appear.

The valuable *Library of Church Music* belonging to the late Dr. Lowell Mason, was given to the Seminary by his family. This library, which is one of the largest of its kind in the country, is placed in one of the rooms in the West Divinity Hall.

The united Libraries of the College Literary Societies, containing 30,000 volumes in general literature, are accessible to theological students.

#### PHYSICAL EXERCISE

The College Gymnasium is open to the students of this Department, at a small charge.

#### DIVINITY HALLS

The East Divinity Hall, erected in 1870, contains in addition to the Lecture Rooms for the three classes and rooms for the Professors, accommodations for about sixty students. The West Divinity Hall (parallel with the other building and adjacent to it) was erected in 1874, and has, in addition to the room containing the Lowell Mason library, accommodations for ninety students. The rooms in these buildings are warmed by steam, and lighted by gas, and are provided with all necessary furniture, except bed-clothes, which may be brought by the occupants, or

will be furnished at a moderate charge by the Janitor. The assignment of rooms to new students is made in the order of their application. A number of the rooms are designed for two students, but so far as practicable, single rooms will be assigned to applicants for admission who desire to room alone.

#### EXPENSES AND PECUNIARY AID

Students have only to make pecuniary provision for about eight months of study annually. In the four months of vacation, from May to September, they have the opportunity to engage in Home Missionary or other labor, with remuneration for their services.

The expenses for the annual session of 35 weeks are \$15 for each student for care of room and other incidental expenses; \$25 to \$30 for fuel and lights, or one-half of this sum in case two students occupy the same room. No charge is made for instruction or room rent, or for the use of Libraries.

The expense for board will be from \$3 to \$4 a week, at which prices most of the students have obtained good board during the past year.

Students of the Junior, Middle, and Senior classes, whose circumstances require it, will receive \$100 a year from the income of Scholarships and other funds belonging to the School. Additional aid to the amount of \$75 annually is offered by the American College and Education Society to its beneficiaries. These means of assistance cover all the expenses mentioned above.

After the close of the second year in May, students have opportunities to receive remuneration for preaching in the neighboring churches.

The Scholarships belonging to the Department bear respectively the names of James Hillhouse, William Leffingwell, George E. Dunham, Normand Smith, E. E. Salisbury, Thomas R. Trowbridge, Charles Atwater, Richard Borden, Susan B. Dwight, Samuel Holmes, Charles Nichols, Noah

Porter, John DeForest, James Dwight, J. B. Beadle, David Root, Rebecca Breed, Mary Goodman, Orin Fowler, Edward Bull, W. W. Seymour, William S. Eakin, Cassius Welles, Robert McEwen, and George Gabriel.

In general, it may be said that the aid which is provided for every young man, of any evangelical denomination, who gives promise of usefulness in the ministry, is sufficient, in connection with his own efforts, to enable him to complete a course of theological study.

#### GRADUATE FELLOWSHIPS

A Graduate Scholarship or Fellowship was established in this department, in 1876, as a memorial of the late Mrs. Aurelia D. Hooker, of New Haven. It is assigned at graduation to that member of the class to which it is offered who, having been connected with the School through the entire course and being of approved Christian character, has, in the judgment of the Faculty, made such proficiency in theological studies as best to qualify him for the advantages offered by this foundation for the further prosecution of the same. The person to whom the scholarship is given receives the annual income (\$600) for two years after graduation, and is expected to pursue a course of theological study under the direction of the Faculty, either as a resident at the School, or, in case he may prefer to do so, in Europe or Palestine. The HOOKER FELLOWSHIP was offered to the class which entered the Divinity School in September, 1888, and is also offered to the class which entered in September, 1890.

A SIMILAR GRADUATE FELLOWSHIP yielding \$500, and affording to the student who shall receive it the same privileges for one year after graduation, is offered on the same conditions, to the class which enters the School in September, 1891.

## DEPARTMENT OF MEDICINE (YALE MEDICAL SCHOOL)

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### FACULTY

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT  
MOSES C. WHITE, M.D., *Professor of Pathology*  
CHARLES A. LINDSLEY, M.D., *Professor of Theory and Practice of Medicine*  
WILLIAM H. CARMALT, M.D., *Professor of Surgery*  
JAMES K. THACHER, M.D., *Professor of Physiology and Clinical Medicine*  
JAMES CAMPBELL, M.D., *Professor of Obstetrics and Diseases of Women and Children*  
THOMAS H. RUSSELL, M.D., *Professor of Materia Medica and Therapeutics*  
—— ———, *Professor of Anatomy*  
HERBERT E. SMITH, M.D., *Professor of Chemistry, and Dean*

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### OTHER INSTRUCTORS

WILLIAM H. BREWER, PH.D., *Lecturer on Sanitary Science and Public Health*  
HENRY P. STEARNS, M.D., *Lecturer on Insanity*  
SAMUEL B. ST. JOHN, M.D., *Lecturer on Ophthalmology*  
HENRY FLEISCHNER, M.D., *Lecturer on Dermatology and Clinical Medicine*  
LOUIS S. DEFOREST, M.D., *Assistant in the Medical Clinic*  
FRANK H. WHEELER, M.D., *Assistant in Pathology*  
CHARLES E. PARK, M.D., *Assistant in the Surgical Clinic*  
WILLIAM E. LOCKWOOD, M.D., *Demonstrator of Physiology*  
HENRY L. SWAIN, M.D., *Lecturer on Diseases of Throat and Ear*  
OLIVER T. OSBORNE, M.D., *Assistant in the Medical Clinic*  
ALFRED E. THAYER, M.D., *Instructor in Anatomy*  
THOMAS G. LEE, M.D., *Lecturer on Histology and Bacteriology*  
ROBERT E. PECK, PH.B., *Assistant in Chemistry*

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In the fall of 1810 a charter was granted to the President and Fellows of Yale College and the President and Fellows of the Connecticut Medical Society, authorizing them to unite according to the terms of certain "Articles of Union,"

before agreed upon, for the establishment of a medical seminary, to be styled the Medical Institution of Yale College. Two years later the School was organized, and in the fall of 1813 instruction was begun. The Faculty consisted of four professors, appointed by the College Corporation from nominations by the Medical Society. Degrees were conferred by the College on the recommendation of the board of examiners, consisting of the members of the Faculty and an equal number appointed by the Medical Society. The instruction consisted of didactic and clinical lectures and dissections during the short winter course. Later, instruction was given during the spring months also, and from time to time the number of instructors was increased.

That this dual nature of the School and the method of instruction were wisely planned is shown by the position which the School took at once in the medical instruction of the time. But changes gradually took place in the relations between practitioners and students of medicine, and even greater changes in medicine itself, which demanded a different kind of instruction. This School responded early to this demand, and in 1879 an entrance examination was imposed and a graded course extending over three full years and including considerable laboratory instruction was adopted. In 1884, by an agreement with the Medical Society, the College authorities assumed the entire control of the School.

In reorganizing the School as an integral part of the University, the inherent defects in the older and still common method of instructing chiefly by didactic lectures, were recognized, and the methods now employed are similar to those in vogue in the other Departments. Didactic lectures are still employed as best in some branches, but recitations from assigned readings, with explanatory lectures, laboratory work, and personal instruction in the clinics, constitute the main portion of the curriculum. The School has well equipped laboratories for the study of anatomy, histology, chemistry, physiology, and pathology, and the student spends much of his time in them during the first two years.

In the second year he begins the practical branches of medicine, to which he devotes the third year. While the attention of the student is particularly directed to those branches which can be studied to advantage only in a well equipped medical school, the value of clinical instruction is fully appreciated, and amply provided for. The details of the course of instruction are given below.

#### TERMS OF ADMISSION

Candidates for admission to the course leading to the degree of Doctor of Medicine, must be at least eighteen years old, and must present satisfactory testimonials of moral character from former instructors or physicians in good standing.

As evidence that he has had a sufficient preliminary education, each candidate must present proof that he has passed the matriculation examination of some scientific, literary, or professional college in good standing; or present testimonials from the proper officer that he has pursued the course at some high school, academy, or preparatory school, approved by the Faculty; or he must pass an examination in the following subjects:

1. **ENGLISH:** An essay of about two hundred and fifty words on some familiar subject to be announced at the time of the examination.

2. **MATHEMATICS:** The metric system of weights and measures. *Algebra*; to Quadratics. *Geometry*; Euclid, Books i and ii, or their equivalent.

3. **PHYSICS:** Gage's Physics, or some equivalent work.

These examinations are conducted in writing, and are held at the Medical School at 9 A. M., on the Wednesday preceding the opening of the first term, and on the Thursday following Commencement.

Copies of the questions of previous examinations will be furnished on application to the Dean.

In conjunction with other Departments, matriculation examinations will be held also on the Thursday after Commencement, in Chicago, Cincinnati, and San Francisco. Particulars of the time and place will be announced in

the local papers. A fee of five dollars is charged for admission to examinations, held out of New Haven.

Students who have studied elsewhere in recognized medical schools, may present themselves for examination three weeks before Commencement and enter the examinations of the first year, or of the first and second years, according to their time of study. The results of these examinations will determine the class to which they belong.

Applicants for advanced standing who present themselves at other times of the year will be assigned to such classes as from their representations they seem to be fitted for, but at the next annual examination they will be examined in all of the studies previously passed by their class, as well as in those for the current year.

#### TERMS AND VACATIONS

The annual sessions of the School are divided into three terms, covering thirty-four weeks, exclusive of a vacation of three weeks at Christmas and a recess in the spring, usually of one week.

The first term begins with the first Thursday of October, and continues eleven weeks. The second term begins three weeks after the close of the first, and continues twelve weeks. The third term is eleven weeks in length, ending with Commencement. (See Calendar.)

#### COURSE OF INSTRUCTION

##### JUNIOR YEAR:

*Chemistry*: Illustrated Lectures and Recitations, 4 hours,\* Professor Smith. Chemical Laboratory, 8 hours, Professor Smith and Mr. Peck.

*Anatomy*: Lectures and Recitations, 3 hours, Dr. Thayer. Dissections, four times a week, Dr. Thayer. *Autopsies*, Professor White.

*Histology*: Laboratory work, 3 hours, Lectures and Recitations, 2 hours, Dr. Lee.

*Physiology*: Recitations and Demonstrations, 3 hours, Professor Thacher and Dr. Lockwood.

\* In each week.

## MIDDLE YEAR :

*Anatomy* : Lectures and Recitations, 3 hours, Dr. Thayer. Dissections, four times a week.

*Materia Medica and Therapeutics* : Lectures and Recitations, 3 hours, Professor Russell

*Physiology* : Lectures and Recitations, 1 hour, Professor Thacher and Dr. Lockwood.

*Pathology* : Lectures and Recitations, 1 hour, Professor White. Laboratory work, 2 hours, Professor White and Dr. Wheeler. *Autopsies*, Professor White.

*Medicine* : Lectures and Recitations on General Medicine, 3 hours, Professor Lindsley.

*Surgery* : Lectures on General Surgery, 3 hours, Professor Carmalt.

*Obstetrics and Diseases of Women and Children* : Lectures and Recitations, 2 hours, Professor Campbell.

Dispensary Clinics, daily. Hospital Clinics. Operations at the Hospital.

## SENIOR YEAR :

*Pathology* : Lectures and Recitations, 1 hour, Professor White. Laboratory work, 2 hours, Professor White and Dr. Wheeler. *Autopsies*, Professor White. *Bacteriology*, 1 hour, first term, Dr. Lee.

*Medicine* : Lectures on General Medicine, 3 hours, Professor Lindsley. Dispensary Clinic, 3 hours, Professor Thacher. Hospital Clinics, weekly throughout the academic year, Professor Thacher and Dr. Fleischner. *Insanity*, 1 hour, for nine weeks, Dr. Stearns. *Sanitary Science*, Professor Brewer, and *Toxicology*, Professor Smith, 1 hour, one term.

*Surgery* : Lectures on General Surgery, 3 hours, Professor Carmalt. Dispensary Clinic, 2 hours, Professor Carmalt. Hospital Clinic, once a week for five months, Professors Carmalt and Russell. Lectures on *Ophthalmology*, 1 hour, Dr. St. John. *Ear and Throat Clinic*, 1 hour, Dr. Swain.

*Obstetrics and Diseases of Women and Children* : Lectures and Recitations, 2 hours, Professor Campbell. Dispensary Clinic for Diseases of Women, 2 hours, Dr. Wheeler.

Dispensary Clinics, daily. Hospital Clinics. Operations at the Hospital.

**CHEMISTRY**—In the lectures and recitations on *General Chemistry* the students are as well grounded as is practicable on the fundamental principles of the science, on the formulation of reactions, and the solution of problems. The properties of the elements and their chief compounds are illustrated by experiments and the use of a large collection. Much attention is devoted to the study of organic compounds; the



properties and theories as to the constitution of these important bodies are illustrated by specimens and by the preparation of many of the typical compounds before the class.

*Qualitative Analysis* is taught so far as to require each student to be able to analyze a mixture of the salts of the common metals. Each student is furnished with a desk and all required apparatus and reagents. The course is systematic and is well adapted to cultivate habits of observation and the analytical method of thought. The elements of *Quantitative Analysis* are taught, a number of typical determinations being made by volumetric and gravimetric methods.

The course in *Physiological and Medical Chemistry* consists of recitations and a practical laboratory study of the composition and reactions of the various animal tissues and fluids, the processes of metabolism and digestion, and the action of ferments. Due attention is paid to the composition of foods, the physiological use of the digestive preparations, and other matters of medical interest, especially to the recent analytical methods employed in clinical work. The study of normal urine is supplemented by abundant practice in the chemical and microscopical examination of pathological specimens.

**ANATOMY**—The course in Anatomy extends through two years, and the aim of the instruction is to give the student both breadth of view and thoroughness of detail. To this end the subject is approached from a comparative and developmental standpoint, but its practical side is always kept in view and emphasized. At the beginning of the course each student is provided with a set of bones for home study. Ample material is provided for dissection and each student dissects every part of the body under the supervision of the instructor; after each part is completed an oral examination is held on the work.

An important feature of the instruction is the system of recitations, to which the didactic lectures are supplementary and explanatory; the proportion of recitation is especially large the first year. The classroom exercises are illustrated by dissections, the use of several hundred lantern slides, and by demonstration on the living model of the facts of *Topographical Anatomy* which constitute so important a part of the practitioner's use of anatomy. In addition, comparative material is employed for illustration where desirable, and the principal types of vertebrate animals are demonstrated, occasional lectures being held at the Peabody Museum. These exercises the student is advised to attend, although attendance is optional.

During the first year the subjects of study are, the bones, ligaments, muscles, and trunk viscera, and during the second, the rest of systematic anatomy with particular attention to topography.

*Normal Histology and Embryology*—The instruction in these subjects includes a careful consideration of the histological structure of the adult

body compared with that of the foetus in various stages of development, together with the history of the formation and growth of the embryo as a whole. By this method the student is enabled to gain not only a thorough understanding of the structure of the various tissues and organs of the body, but also to trace their development and growth. The course of instruction consists of lectures, recitations, and laboratory work. The lectures are very fully illustrated by lantern-transparencies made from photographs of typical sections and drawings. These are accompanied by recitations from a standard text-book. In the laboratory, each student is furnished with a microscope and an outfit of all reagents and apparatus required for thorough work. He receives carefully prepared sections and specimens of all the tissues and organs of the body, both in the adult and embryonic condition; these are mounted for permanent preservation and from them careful drawings are made. Practical instruction is given each student in the technology of the subject.

The laboratory cabinet contains an extensive reference collection of histological specimens and serial sections of embryos; this together with the most recent instruments and publications, and an abundant supply of material, affords good facilities for advanced work.

**PHYSIOLOGY**—The design of the regular course of instruction in this branch may be described as essentially the impression of modern physiology on the mind of the student, following the lines and methods and according to the measure of Dr. Foster's excellent presentation in his manual. To accomplish this purpose full experimental illustrations of the more important principles of physiological physics are given, accompanied by such demonstrations of the fundamental principles of physiology as will make a clear and lasting impression upon the mind of the student. During the first part of the year instruction is given in elementary physiology, for the special benefit of those who have had no preliminary training in biology. This elementary instruction is accompanied by work in the laboratory, in order that students may become perfectly familiar with the principles of physiology and with the apparatus, before entering upon the more advanced study. In the laboratory the students have the opportunity to serve as assistants during the demonstrations, and thus are enabled to acquire both an intimate knowledge of the subject and a manual skill which will be of service to them in their professional work. Regular recitations are held with the three-fold design of enforcing the principles which have previously been demonstrated, of preparing students in advance for work in the laboratory, and of holding them individually to a systematic and thorough course of study.

Care is taken to call attention to the relations of physiological facts, as they present themselves, to practical Medicine.

The physiological laboratory is well supplied with apparatus, comprising most of the instruments essential for physiological demonstration and research. Students desirous of investigating some particular subject in experimental physiology will be taken into the laboratory without extra charge, furnished with the requisite apparatus, and directed in their work.

**MATERIA MEDICA AND THERAPEUTICS**—The instruction in this department is given by recitations chiefly. These are illustrated by the specimens from a large collection of the materia medica, though the botany, physical character, and chemical composition of drugs, receive much less attention than their physiological actions and therapeutical uses; the lectures are devoted more particularly to the elucidation of the latter subjects. A reasonable portion of time is devoted to exercises in prescription writing, in both the metric and English systems. The students are required to prescribe for a large variety of hypothetical cases, calling for the administration of most of the drugs of the materia medica.

**PATHOLOGY**—The instruction in pathology consists of lectures, recitations, and laboratory work in pathological histology. The laboratory is supplied with excellent microscopes which are furnished to each student, together with all necessary apparatus and reagents for the preparation, study, and preservation of microscopical specimens of morbid tissues.

Pathological anatomy is illustrated by a large collection of specimens and drawings, with which the museum is supplied, and supplemented by fresh pathological specimens. Students are also expected to attend all the autopsies made at the Morgue of the New Haven Hospital. This large and convenient morgue was constructed with special reference to rendering autopsies available for the instruction of students.

**Medical Jurisprudence**—Instruction in this subject is given by lectures and demonstrations.

**Bacteriology**—The School has a special laboratory for the study of Bacteriology, which contains a fine equipment of modern apparatus, for carrying on investigations in all lines of research regarding bacteria. There is also maintained a cabinet of cultures, both saprophytic and pathogenic.

Instruction is given by means of lectures, and demonstrations of the various methods of isolating and identifying these organisms.

Graduates and those desiring to do special work will be afforded excellent opportunities for study.

**MEDICINE**—The method so long in vogue in medical schools of teaching this important branch solely by didactic lectures, has for a few years past been superseded by a method combining lectures and recitations

in the same exercise. It is the experience of this School that the latter method has been attended with much more satisfactory results. By this mode of instruction the student is not only informed of the special subject of the day, but is required to prepare himself from a text-book. During the recitations questions upon the subject are encouraged, and the Professor has thus the best opportunity to explain such obscure points as he may find are not fully appreciated. The intent and aim of the teaching is to give the instruction a practical direction, the teacher being constantly mindful of the real needs of the student.

*Clinical Instruction* is carried on at the New Haven Hospital, and at the New Haven Dispensary which is on the School grounds.

The clinical instruction in internal medicine in connection with the Dispensary comprises three clinics weekly held for the Senior and Middle classes by the Professor of Clinical Medicine. The cases exhibited are such as may be selected from among the patients for their instructive character and cover very completely the range of diseases exhibited by walking patients. In these clinics especial attention is devoted to the demonstration of all signs and symptoms of disease, and instrumental or other means for their detection; auscultatory, palpatory, or other features which demand it, being demonstrated to the students individually in succession.

The Dispensary service in internal medicine which supplies these clinics is divided into three portions, each under the immediate supervision of a physician, assistant to the Professor of Clinical Medicine. Each of these assistants is in attendance twice a week, and to each of them are assigned from the Senior class three clinical clerks, who are changed each month. The clinical clerks take the histories and make the preliminary examinations of patients, which are revised by the Assistants who prescribe the treatment. While the clinical clerks are appointed primarily for the relief of the assistants in their examination of the patients, they find here necessary and we believe unexcelled opportunities for rendering themselves familiar with practical medical work. The urine, sputum, blood, etc., when these require investigation, are examined by the students under the direction of the instructors of chemistry and histology. Cases which need to be seen at home are put in charge of Senior students with such supervision as each case requires.

At the Hospital one medical clinic is held each week during the entire academic year by Professor Thacher and Dr. Fleischner. These are general medical clinics, but particular attention is given to the demonstration of the various signs of importance in *Physical Diagnosis*. Opportunity is also here provided for the study of those severer cases which the Dispensary service does not furnish, and care is taken to have the students see the same patient in various stages of his disease, and, in fatal cases, to demonstrate the lesions.

*Mental Diseases* receive special consideration in a course of didactic lectures by Dr. Stearns, and by visits to hospitals for the insane.

*Dermatology* is taught in a course of clinical lectures by Dr. Fleischer.

*Sanitary Science and the Public Health* receive attention from Professor Brewer in a course of lectures, which includes the elements of these subjects, with a discussion of methods in practice, and of public sanitary administration.

*Toxicology* is taught in a course of experimental lectures by Professor Smith, and as treated includes a discussion of the general subject-matter of the science, the statistics of the use of the different poisons, and an exposition of the chemistry and the medico-legal bearings of the poisons.

**SURGERY**—Three didactic lectures on the principles and practice of surgery are given weekly, to the Senior and Middle classes, the course running through two years. Illustrations of minor surgical practice are shown in the service of the New Haven Dispensary, by Professor Carmalt, who has charge of the surgical division. The wards of the New Haven Hospital afford opportunities for the observation and study of the more severe injuries and important surgical diseases. Professors Carmalt and Russell, who are of the visiting staff, hold weekly clinics during their terms of service, in which the advanced students are shown the cases during their whole stay in the Hospital, studying the causes which necessitate operations, where such are necessary, seeing the operations, among which are many of the most important in surgery, and observing the results of treatment.

*Ophthalmology* is taught in a special course of lectures by Dr. S. B. St. John, of Hartford, and illustrated by a large number of cases in the surgical clinic, particular attention being given to their elucidation.

*Otology and Laryngology* are taught by Dr. Swain in the Dispensary clinics. Each student is required to make examinations with instruments, and becomes familiar with their use and with the normal and principal pathological conditions of the throat and ear.

**OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN**—Instruction is given in obstetrics by lectures and recitations, with practical demonstrations of the operations of midwifery. Senior students are assigned obstetrical cases under the direction of the Professor in charge.

*Gynecology* is taught by lectures, recitations, and clinics. The Senior class receive instruction in the Dispensary from Dr. Wheeler.

*Diseases of Children*—This important branch of medicine is taught by didactic lectures and recitations, as well as by clinical instruction at the Dispensary and Hospital.

**THE NEW HAVEN HOSPITAL** is situated but a short distance from the School building, and being the only hospital in a large manufacturing city, which is also a considerable railroad center its wards con-



stantly afford ample material for the illustration of disease, and furnish frequent occasion for the performance of the various surgical operations.

The new *operating theatre* is now completed and is thoroughly equipped with every requisite and convenience for surgical work. The arrangements are planned with special reference to making the operations available for purposes of instruction to students.

Three Resident Physicians are appointed annually according to the results of an examination before the medical staff. Graduates of this School frequently obtain appointments also in the hospitals of neighboring cities.

THE NEW HAVEN DISPENSARY is located on the school grounds. Extensive changes have recently been made in the building; a substantial addition has been erected and the old building remodeled. It is now so arranged as to afford the greatest facilities for the examination and treatment of the many patients who seek aid at this charity, and to furnish the best opportunities to instruct the students, who daily participate in the work of the institution.

WRITTEN EXAMINATIONS are held at the close of each year on the studies of the year. The examinations at the end of the first year are upon General and Medical Chemistry, Histology, Anatomy, and Physiology.

Those at the end of the second year are upon Advanced Physiology, Advanced Anatomy, Materia Medica and Therapeutics.

Those at the end of the third year are upon Pathology, Surgery, Medicine, and Obstetrics, with a practical examination in Clinical Medicine.

#### REQUIREMENTS FOR A DEGREE

To be eligible for the degree of Doctor of Medicine, every candidate must fulfill the following conditions:

I. He must be at least twenty-one years of age, and must sustain a good reputation for moral character.

II. He must have spent three years as a student in this School, or if but one or two years in this School, he must have pursued such studies in some other recognized institution, as are considered by the Faculty to be the equivalent of the remainder of the full term of study. The last year must have been in this School.

III. He must have passed to the satisfaction of the Faculty, the prescribed examinations of the course. And he must have presented a satisfactory thesis on some subject relating to medicine. The thesis should be presented to the Dean on the third Wednesday before Commencement.

## HONORS AND PRIZES

The degree of Doctor of Medicine *magna cum laude* will be conferred on students whose examinations and school work show distinguished merit.

The degree of Doctor of Medicine *cum laude* will be conferred on students whose examinations and school work show unusual merit.

THE CAMPBELL GOLD MEDAL is awarded to that member of the graduating class who secures the highest rank in the examinations of the course.

THE KEESE PRIZE—The income of the fund for the Keese Prize, a memorial of Hobart Keese, M.D., of the class of 1855, which amounts to about \$140 annually, is awarded by the Faculty to that member of the graduating class who presents the best thesis.

THE OBSTETRICAL PRIZE, consisting of a set of obstetrical instruments, is awarded to that member of the graduating class who passes the best examination in obstetrics.

Any of these prizes may be withheld at the option of the Faculty.

## LIBRARY

The University Library contains about 150,000 volumes and includes the Medical Library. Medical students have the same privileges of consulting and drawing books as other students of the University.

## GYMNASIUM

The privileges of the College Gymnasium can be had on payment of a small fee.

## FEES AND EXPENSES

## FIRST YEAR:

Matriculation (paid but once), . . . . .	\$ 5.00
Tuition, . . . . .	140.00
Practical Anatomy (including instruction and material), . . . . .	10.00

## SECOND YEAR:

Tuition, . . . . .	140.00
Practical Anatomy (including instruction and material), . . . . .	5.00

## THIRD YEAR:

Tuition, . . . . .	80.00
Graduation, . . . . .	30.00

A deposit of \$5 is required in the chemical laboratory, and one of \$1 in the histological laboratory, to cover the cost of apparatus broken by the student ; at the end of the year the excess over the amount of breakage will be returned.

*These fees give entrance to all the instruction of the School, including not only the lectures and quizzes, but the practical courses in analytical and physiological chemistry, urinary analysis, histology, pathology, osteology, syndesmology, and clinical medicine and surgery.*

The tuition fee for the first and second years is due at the beginning of each of the three terms, in installments of \$50, \$50, and \$40, respectively ; for the third year the installments are \$30, \$30, and \$20.

Fees are paid to the Treasurer of the University, except the matriculation fee and the fee for graduation, which are paid to the Dean.

**BOND**—Students who do not pay in advance are required to give a bond to the Treasurer for three hundred dollars, executed by a satisfactory bondsman ; a blank for this bond will be furnished on application to the Treasurer. Those who deposit such bonds will receive term bills, with interest added, shortly before the end of each term, to be paid, on or before the commencement of the next succeeding term, and students who deposit bonds must pay all arrearages before they can receive back their bonds from the Treasurer. No degree can be conferred, or certificates of attendance or examination furnished, until all bills due the School are paid.

Students will be assisted in finding board and lodging by the Janitor.\* Prices range from four and a half dollars a week upwards.

#### INSTRUCTION TO GRADUATE AND SPECIAL STUDENTS NOT CANDIDATES FOR A DEGREE IN MEDICINE

The instruction here offered to graduates in medicine is intended to meet the requirements of two classes of stu-

\* Mr. William Blackwood, 146 York St.



dents : first, those who wish to review or supplement their knowledge of the regular studies of the medical curriculum, as taught in this School ; and second, those who wish to fit themselves in special lines of medical work, or for the duties of a medical examiner, or for medico-legal and sanitary examinations.

Courses in the following subjects are specially mentioned : Experimental Physiology ; Physiological Chemistry ; Chemical Analysis, including General Qualitative Analysis and the Quantitative Methods as applied in medicine ; Experimental Toxicology and Medico-Legal Examinations ; Sanitary Analysis, including the Chemical and Bacteriological Examinations of Food, Air, Water, etc. ; Practical Anatomy ; Normal and Pathological Histology ; General Bacteriology.

But any of the regular studies may be taken, and special courses to meet the requirements of the student may be arranged at hours convenient to the instructors.

*Special Students* are not taken in the practical branches of medicine, but the studies mentioned above and the general studies of the course are open to such persons as may desire to pursue them, if by their previous studies they are prepared to profit by the instruction.

The charges for instruction will depend on the courses taken, and can be ascertained for any particular line of study by applying to the Dean.

For further information, address Professor HERBERT E. SMITH, Dean. Office hours, from 11:30 A. M. to 12:30 P. M. on Wednesdays, at the School, 150 York St.

# DEPARTMENT OF LAW

## (YALE LAW SCHOOL)

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### FACULTY

- REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT  
HON. FRANCIS WAYLAND, LL.D., *Dean*  
HON. WILLIAM C. ROBINSON, LL.D., *Professor of Elementary and Criminal Law and the Law of Real Property*  
SIMEON E. BALDWIN, M.A., *Professor of Constitutional and Mercantile Law, Corporations, and Wills*  
WILLIAM K. TOWNSEND, D.C.L., *Edward J. Phelps Professor of Contracts and Admiralty Jurisprudence*  
THEODORE S. WOOLSEY, LL.B., M.A., *Professor of International Law*
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### SPECIAL LECTURERS AND INSTRUCTORS

#### IN THE UNDERGRADUATE COURSE

- HON. EDWARD J. PHELPS, LL.D., *Lecturer on Evidence, Equity, and International Law*  
HON. NATHANIEL SHIPMAN, LL.D., *Lecturer on Jurisdiction of and Procedure in United States Courts*  
HON. THOMAS M. COOLEY, LL.D., *William L. Storrs Lecturer on The Interstate Commerce Act*  
MARK BAILEY, M.A., *Instructor in Forensic Elocution*  
HON. WILLIAM E. SIMONDS, LL.B., M. A., *Lecturer on Patent Law*  
HON. MORRIS W. SEYMOUR, M.A., *Lecturer on Corporations*  
M. DWIGHT COLLIER, M.A., *Lecturer on Attachments, Judgments, and Executions*  
THOMAS THACHER, LL.B., M.A., *Lecturer on Corporate Trusts*  
JAMES M. TOWNSEND, JR., LL.B., *Lecturer on Transfer of Monetary Securities*  
GEORGE M. SHARP, LL.B., M.A., *Lecturer on Insurance*  
C. LA RUE MUNSON, LL.B., *Lecturer on the Beginnings of Practice*  
GEORGE D. WATROUS, D.C.L., *Instructor in Contracts and Torts*

## IN THE GRADUATE COURSE

ALBERT S. WHEELER, M.A., *Instructor in Roman Law*

ARTHUR M. WHEELER, M.A., *Instructor in English Constitutional History*

WILLIAM G. SUMNER, LL.D., *Instructor in Political and Social Science*

ARTHUR T. HADLEY, M.A., *Instructor in Railway Management and Economics of Transportation*

EDWARD V. RAYNOLDS, D.C.L., *Instructor in Comparative Jurisprudence*

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JOHN A. ROBINSON, LL.B., M.D., *Librarian*

PORTER B. GODARD, B.A., *Assistant Librarian*

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It is the aim of the School to give to all students in its regular undergraduate course a thorough acquaintance with the general principles and rules of American law, so as to fit them for the Bar of any State; to extend to those who do not propose to become practicing lawyers, but wish to pursue some particular branches of legal or political knowledge, such assistance as they may desire; and to offer to advanced students, who are able to devote to it the necessary time, instruction in all that belongs to law as a science in its widest sense. Such instruction is now given in an undergraduate course, a graduate course, and two special courses.

The undergraduate course is mainly devoted to the practical side of legal education, but also gives some introduction to the general ideas and sources of jurisprudence. In the graduate course, the studies are so arranged that those of the first year have no necessary connection with those of the next, and can therefore be profitably pursued by themselves when the student has no time to devote to a more extended education. The first year is mainly occupied with further instruction in practical topics begun in the undergraduate course, such as Corporations, Railroad Law, Patents, Code Pleading, and Practice in the United States Courts. The second year is mainly devoted to studies of a more scientific and philosophical character,

such as General and Comparative Jurisprudence, Legislation and Government, Roman Law, the French Codes, and Private International Law. It is believed that the studies of the undergraduate course, and those of the first year of the graduate course, cover all the topics which it is desirable for the ordinary law student to examine before admission to the Bar; and the fourth year (in which the degree of Doctor of Civil Law is awarded) is recommended only to those who desire to fit themselves to be something more than practicing lawyers. For the special courses see page 172.

The School occupies an entire story of the Court House of New Haven County, facing the Green, on the opposite side from the College buildings. It has, upon the same floor, two lecture-rooms, a large library hall, the office of the Dean of the Faculty, and other apartments furnishing every needed convenience for quiz-clubs and debating societies. A special feature of the School is the peculiar facility which it affords its students for observing actual practice in court. This is due to the fact that in the Court House two terms of the Supreme Court of Errors of Connecticut are held annually; and the Superior Court and Court of Common Pleas (the principal Civil and Criminal Courts of the State) are also in session almost daily, during each of the School terms.

The students are allowed the freest access to the large library of the School, examining the books on the shelves for themselves, without the intervention of the librarian. The familiarity with the reports and authorities that is thus gained, the Faculty deem of great importance in accustoming the student to prepare his cases intelligently and thoroughly in his future practice. A debating society—the Kent Club—gives a good opportunity for practice in public speaking, and the formation of class quiz-clubs, to meet in the Law School apartments, is also encouraged. Those formed in the Junior year are under the special direction of a competent instructor. The discussion of legal topics, unreservedly and familiarly by the students among

themselves, is promoted, and the fact that they generally come from a wide range of States renders such comparisons of ideas of special interest and value to all. The share of the School in the general advantages of the University gives the students many opportunities of broadening their views and acquiring knowledge in regard to matters outside of their strictly professional work. They can, on application to the Dean, obtain permission to be present at one or more of the special courses of graduate instruction in the Department of Philosophy and the Arts, or the lectures on Medical Jurisprudence, Anatomy, Insanity, etc., in the Medical School, on payment of a moderate fee.

The College Gymnasium is open to members of the Law School on payment of moderate fees.

#### COURSES OF INSTRUCTION

The regular courses of instruction, including both required and elective studies, are as follows :

##### UNDERGRADUATE COURSE

###### JUNIOR YEAR :

Professor WAYLAND : Lectures—English Constitutional Law.

Professor PHELPS : International Law.

Professor ROBINSON : Recitations—Elementary Law, Pleading and Evidence.

Professor BALDWIN : Recitations—Mercantile Law. Lectures—Nature and History of American Law, Wills or Roman Law.

Professor TOWNSEND : Recitations—Contracts.

Mr. WATROUS : Contracts and Torts.

Mr. BAILEY : Lectures—Forensic Elocution.

###### SENIOR YEAR :

Professor PHELPS : Lectures—Evidence and Practice.

Professor ROBINSON : Recitations—Real Property, Domestic Relations. Lectures—Estates, Conveyancing, Forensic Oratory, Criminal Law.

Professor BALDWIN : Recitations—Mercantile Law, Corporations, Criminal Law. Lectures—American Constitutional Law, Public Corporations, Wills or Roman Law, Practice.

Professor TOWNSEND : Recitations—Contracts and Torts.

Professor WOOLSEY : Lectures—International Law.  
Mr. SEYMOUR : Lectures—Private Corporations.  
Mr. SIMONDS : Lectures—Patents.  
Mr. COLLIER : Lectures—Attachments, Judgments, and Executions.  
Mr. THACHER : Lectures—Corporate Trusts.  
Mr. J. M. TOWNSEND : Lectures—Transfer of Monetary Securities.  
Mr. SHARP : Lectures—Insurance.  
Mr. MUNSON : Lectures—The Beginnings of Practice.

#### GRADUATE COURSE

##### FIRST YEAR :

Professor ROBINSON : Recitations—Patents.  
Professor BALDWIN : Recitations—Railroad Law, Practice in U. S. Courts.  
Mr. RUSSELL : Recitations—Municipal Corporations, Statute Law.  
Professor TOWNSEND : Recitations—Admiralty Law, Sales.  
Professor WOOLSEY : Lectures—International Law.  
Professor PHELPS : Recitations—Conflict of Laws.  
Professor SUMNER : Lectures—Political History and Science.  
Professor A. M. WHEELER : Lectures—English Constitutional History.  
Professor HADLEY : Lectures—Railway management.  
Dr. RAYNOLDS : Lectures—Roman Law, Comparative Constitutional Law.

##### SECOND YEAR :

Professor ROBINSON : Recitations—Early History of Real Property. Lectures—Canon Law.  
Professor BALDWIN : Recitations—Comparative Jurisprudence, Code Napoléon.  
Dr. RAYNOLDS : Recitations—General Jurisprudence, Charities and Trusts.  
Professor WHEELER : Lectures—English Constitutional Law.  
Professor SUMNER : Lectures—Political and Social Science.  
Mr. A. S. WHEELER : Recitations—Roman Law.  
Professor HADLEY : Lectures—Economics of Transportation.

The method of instruction, as will be seen by the foregoing schedule, is mainly that of recitations. It is the conviction of the Faculty of this Department, as well as the tradition of the University, that definite and permanent impressions concerning the principles and rules of any abstract science are best acquired by the study of standard text-books in private, followed by the examinations and explanation of the recitation room. Hence, although certain subjects are separately taught by lectures, either because the want of proper manuals, or the constant and

rapid advance of learning, or economy of time, requires the adoption of that method, care is taken that the same topics shall be covered by recitation work in connection with the wider branches of the law to which they belong. The recitation-hours, however, are not devoted entirely to the questioning of the student. While this is done with sufficient thoroughness to hold him up to his work of preparation, ample opportunity is afforded for a free colloquial discussion of the subject of the lesson and for the presentation and solution of the difficulties which he may have encountered in his private study. In this manner each student is brought into personal communication with the instructor in reference to his daily work, and, as far as practicable, receives the benefits which would be obtained if he were placed under the individual tutorship of his professor.

The several courses of study to which the attention of the student is directed in his undergraduate career are intended to familiarize him with all the branches of the law, which ordinarily become useful to the practitioner in the earlier years of his professional life. The course, embracing Jurisprudence, American Law, English and American Constitutional Law, and Elementary Law, is pursued under the guidance of four different professors. In this course, the fundamental conceptions which underlie all systems of jurisprudence are brought to the notice of the student and fully defined and explained; the peculiar doctrines which characterize our American Law are pointed out; the principles of constitutional government, and the special features it exhibits both in this country and in England, are discussed; and the entire body of the common law in its four great divisions, is reduced to distinct propositions and illustrated by numerous collateral readings. This course alone covers the ground usually traversed by the student in an office prior to his admission to the bar.

The course in Real Property includes recitations in a standard work of a general character, and, subsequently, in text-books upon special subjects such as the law of Mortgages, the law of Landlord and Tenant, etc. Collateral to this course are two others: one, a series of lectures on Estates, in which the law and practice in Guardianships of Infants and Incapables, and in the Administration of Decedents' Estates, are considered; the other, a course of practical instruction in Conveyancing, in which the students are exercised in drawing all the instruments commonly employed in the transaction of business concerning real property.

The course on Contracts is the most extended, as it is the most important, in the School. It occupies a great part of the time of two of the professors. It continues during both the Junior and Senior years, and embraces, among other important topics, those of Agency, Bailments, Bankruptcy and Insolvency, Bills and Notes, Consideration and Assent, Contract Liabilities of Infants and Married Women, Liens,

Marine, Fire, and Life Insurance, Partnership, Sales, Shipping Sureties, Trademarks, and Telegraphs. In addition to the text-books used in this course, the leading cases, decided since the text-book was written, are referred to, thus bringing the law on each point down to the date of instruction. Collateral to this course are five others: one on Wills, in which the law of testamentary dispositions and executorship is examined; another on Patents, in which the nature of patentable inventions, the mode of using letters patent, and the remedies for infringement are considered; a third on Corporations in general, treating the law governing the organization, privileges, duties, and liabilities of all incorporated bodies; the fourth and fifth on Private and Public Corporations respectively, in which the practical arrangement of each class is illustrated and explained.

The course on Torts consists of recitations on that subject, from recent and approved text-books, with a running commentary by the instructor, explaining and applying the principles contained in the lesson.

The course on Equity embraces the whole body of Equity Jurisprudence, and is taught by recitations from the text-book, with occasional lectures on the obscurer topics. Collateral to this course is a series of lectures on Equity Pleading, discussing the principles and practice by which equitable remedies are governed and applied.

The course on Criminal Law extends through part of the Senior year, and embraces the topics of Procedure and Evidence as well as the substantive law of Crimes. Current cases of note, arising in any part of the country, are made subjects of discussion in connection with the rules of law by which they are to be decided.

The course on Pleading embraces the subjects of Common Law Pleading and Code Pleading, both taught by recitations and examples; while the details of the latter are enforced by requiring the students to draw complaints, answers, etc., in cases of their own selection, and to submit them to the instructors for criticism and correction.

The course on Evidence covers both its general rules, and those applicable to each form of action; recitations being supplemented by lectures amplifying and explaining, in the light of modern cases, the principles involved in the various topics. Collateral to this and the foregoing course are four others: one on Forensic Oratory, consisting of a series of lectures, in which the preparation and conduct of a suit, in all its different stages, are explained; the second, on Forensic Elocution, in which practical instruction is given in the art of public and forensic speaking; the third on Process, including the subjects of Attachments, Garnishment, and Execution; and the fourth on Practice, a series of familiar lectures on the methods of transacting general legal business, with an additional optional course upon the local rules and usages prevailing in Connecticut.



The course on International Law occupies portions of both undergraduate years. In the Junior year, the work consists of lectures covering the general field occupied by Woolsey and Pomeroy. In the Senior year, instruction is given by lectures on particular topics, especially on questions which are, for the time being, exciting public attention, and which demand the application of the principles examined in the previous year.

The course on Roman Law is intended as an introduction to the more advanced studies of the Graduate years, and, though necessarily brief, is sufficient to indicate the distinguishing features and doctrines of the civil law, and to refer to the original sources for more detailed information.

The studies of the first Graduate year have been selected with a view of preparing the intended practitioner for the higher walks of professional life. The subjects are of universal interest, the law which governs them is substantially the same in all parts of the country, they involve the most extensive financial enterprises of the age, and on these accounts form the most important practical topics at present embraced within our law. Particular attention to them has, therefore, been deemed an essential requisite to a finished legal education, and the devotion to them of an additional year, on the part of students and instructors, has been thought a wise, if not a necessary measure. The various courses are critically taught both by text-book and by lecture, and each student receives all the assistance he may desire in his personal examination of cases and authorities. Special attention is paid to the methods of practice and pleading in the United States Courts, both in common law, equity, and admiralty cases, and instruction is therefore given on these subjects by three of the Faculty. The students are required to draft pleadings, and in matters of special difficulty, such as the conduct of proceedings *in rem* in admiralty, these pleadings are carried on through all the usual steps, and the issues made up are argued before the Professor. They are also made familiar with the leading cases on these points in the United States Supreme, Circuit, and District Courts. The value of this year of special work to the earnest and intelligent graduate cannot be overestimated.

The courses of instruction in the second Graduate year are designed to afford to the advanced student an opportunity to round out his legal acquirements with a knowledge of the more profound and philosophical principles of human law. The primary conceptions to which he was introduced at the commencement of his studies are again taken up and developed in a scientific method, and examined in the light of various systems of practical jurisprudence now or heretofore prevailing. In view of the limited time which can ordinarily be devoted by young men to these pursuits, the courses have been so arranged as to present these

fundamental ideas as clearly and in as many applications as is possible, leaving it to future private study to enlarge the outline and complete the details of the work.

The course on General Jurisprudence consists of lectures and recitations from such works as Austin on Jurisprudence, Holmes on the Common Law, etc., and the students are required to write theses on the various topics. Charitable Trusts are examined with reference both to their creation and their proper administration. The course on Roman Law comprises the careful study of the Institutes of Justinian, in connection with institutional works of modern authors, and the perusal of selected titles from the Digest, accompanied by oral explanation. Particular attention is devoted to this course of study, and every effort is put forth to make the students familiar with the doctrines of the civil law, as well as with the technical language in which these have been expressed. The course on Comparative Jurisprudence includes among its chief branches a careful study of the French Codes, compared with other systems of jurisprudence, particularly the Roman, English, and American, and recitations upon private international and inter-state law, with the investigation of leading cases on these subjects, decided in the French and American courts. The course on Canon Law consists of a series of lectures on the history, development, and fundamental theories of the Canon Law, with select readings from the *Corpus Juris Canonici*, and from French and English treatises upon the subject. The course on Political and Social Science is one of the principal courses in the Philosophical Department of the University (see page 116), and is attended by the Graduate students of the Law School in common with the members of that Department. The course on the Economics of Transportation is a continuation of the series of Lectures on Railway Management given in the first graduate year, extending the view of the student from the single subject of railways to all the instrumentalities of commerce.

In addition to the regular course of instruction, two Special Courses are provided: one for those who desire some acquaintance with law as a preparation for business life; the other for persons not intending any active business or professional career, but desiring to acquire an enlarged acquaintance with our political and legal systems and the rules by which they are governed. The first of these special courses covers a single year; the second comprises two years. The studies of the first course may be arranged as follows, but this selection can be varied (if desired) on consultation with the Dean of the Faculty:

## FIRST SPECIAL COURSE—ONE YEAR

Professor ROBINSON: Recitations—Elementary Law. Lectures—Estates.

Professor BALDWIN: Recitations—Agency, Partnership, Corporations, Bills and Notes, Bankruptcy and Insolvency. Lectures—American Law, American Constitutional Law.

Mr. WATROUS: Recitations—Torts.

Professor TOWNSEND: Recitations—Marriage, and Husband and Wife, Sales, Shipping, Insurance, Sureties, Bailments, Telegraphs, Trademarks, Liens.

Professor PHELPS: Lectures—International Law.

Professor HADLEY: Lectures—Industrial Legislation.

Mr. BAILEY: Lectures—Elocution.

Mr. COLLIER: Lectures—Attachments, Judgments, and Executions.

Mr. THACHER: Lectures—Corporate Trusts.

Mr. J. M. TOWNSEND: Lectures—Transfer of Monetary Securities.

## SECOND SPECIAL COURSE—TWO YEARS

## FIRST YEAR

Professor ROBINSON: Recitations—Elementary Law. Lectures—Estates.

Professor BALDWIN: Recitations—Bankruptcy and Insolvency. Lectures—American Law, American Constitutional Law, Roman Law.

Professor TOWNSEND: Recitations—Sales, Insurance.

Professor PHELPS: Lectures—International Law.

Professor SUMNER: Lectures—Political and Social Science.

Professor FARNAM: Lectures—Public Finance.

Professor HADLEY: Lectures—Industrial Legislation.

Mr. BAILEY: Elocution.

Mr. SEYMOUR: Lectures—Private Corporations.

Mr. WHITE: Lectures—Local Government in the United States.

Mr. SHARP: Lectures—Insurance.

## SECOND YEAR

Professor BALDWIN: Recitations—Private International Law.

Mr. RUSSELL: Recitations—Municipal Corporations, General Jurisprudence.

Professor WOOLSEY: Lectures—International Law.

Professor SUMNER: Lectures—Political and Social Science.

Mr. A. S. WHEELER: Recitations—Roman Law.

Dr. RAYNOLDS: Lectures—Roman Law.

Mr. THACHER: Lectures—Corporate Trusts.

Mr. J. M. TOWNSEND: Lectures—Transfer of Monetary Securities.

In the latter course the students may, at their option, defer some of the studies of the first year until the second, and when desired, other branches taught in the Law School may be pursued, instead of certain of those here mentioned, at the discretion of the Faculty. Some or all of the studies of this course may be taken by those who, having received a bachelor's degree implying a course of undergraduate study equivalent to that pursued in the Academical Department, are completing their education with a view of applying for the degree of Doctor of Philosophy (see page 112). Those who take the full course may apply for the degree of Bachelor of Civil Law (B.C.L.).

Besides these various exercises, the undergraduate students are required, from time to time, to draft contracts, wills, and other similar instruments; the work of each being reviewed and commented upon, either in public or in private, by the instructor. Public Moot Courts, besides those of the class quiz-clubs, are regularly held, at which one of the professors presides as judge; and the students acting as counsel, in the argument of cases, are required to draw the necessary pleadings, according to the common law or equity forms, as the case may be. Occasionally also, cases are tried by the students before a jury of their own number, in a court regularly organized, with a full complement of judicial, clerical, and executive officers, where the proceedings are conducted in the same manner as in ordinary courts of law.

#### TERMS AND VACATIONS

There are three terms in each year: the Fall Term, beginning thirteen weeks from the day after Commencement, and continuing to the Thursday before Christmas; the Winter Term, beginning in January, after a vacation of three weeks, and lasting eleven weeks; and the Spring Term, beginning after a vacation of two weeks, and continuing until Commencement.

#### REQUIREMENTS FOR ADMISSION

##### UNDERGRADUATE COURSE

Applicants for admission to the Junior Class must be at least eighteen years of age, and must produce certificates

of good moral character. Students who have not received a liberal education at some collegiate institution will not be admitted as candidates for the degree of LL.B., until they have passed satisfactory examinations on the outlines of the History of England (Green's History of the English People is recommended) and of the United States, and on the text of the Constitution of the United States. Those, however, will be excused from this examination who present a certificate that they have passed a "Regents' Examination for Law Students," conducted under the authority of the Board of Regents of the University of the State of New York.

To entitle a person to admission to advanced standing as a member of the Senior class, he must be at least nineteen years of age; must, if a College graduate, have studied law under a competent instructor, or at the Law School of some College or University, for at least one year; must, if not a College graduate, have studied law under a competent instructor for at least two years, or at a Law School for at least one year; and must pass such examinations as are required for those entering the Senior Class in the regular course, at which it will be sufficient if he is prepared to be questioned on Parsons on Contracts (excepting only from vol. ii, pages 257 to 488, and from vol. iii, pages 350 to 423 and 525 to 557); Blackstone's Commentaries (except Book 4), Robinson's Elementary Law, Gould on Pleading, Townsend's Notes on Code Pleading, Greenleaf on Evidence, vol. i, Cooley on Torts, and the elementary principles of testamentary law, as given in such works as Hawkins on the Construction of Wills. Those not College graduates must also pass the preliminary English entrance examination, or produce a "Law Student's Certificate," from the Regents of the University of the State of New York. Attorneys at Law, however, of any State are entitled to admission to the Senior Class, without examination, on the exhibition of their certificates of admission to the bar; and special students, not candidates for a degree, will be admitted to any of the exercises of the School without examination.

## GRADUATE COURSE

The first year of the graduate course is open, without examination, to graduates from any Law School, having the degree of LL.B.

The last year is open only to those who have successfully completed the studies of the preceding year, and received the degree of Master of Laws (M.L.). A preliminary examination upon the outlines of Roman Law and Roman History must also be passed, by all who have not taken their Bachelor's degree at some Law School where Roman Law is a prescribed study. The degree of Doctor of Civil Law (D.C.L.) may be applied for at the end of this year, by those who have been graduated at some collegiate institution as Bachelor of Arts, Philology, or Philosophy; or who are graduates of this Law School, and have attained a prescribed standard of scholarship on their examinations for the degrees of LL.B. and of M. L. A good knowledge of either the French or German language, as well as of Latin, is also required. The Faculty will present no one for the degree of D.C.L., who has not attained a high standard of proficiency in the studies pursued.

## EXAMINATIONS

There will be an examination of candidates for admission to the Junior Class immediately after the opening of the Fall Term. Candidates for admission to the Senior Class are examined at the end of the Spring Term, or beginning of the Fall Term. Seniors are examined for a degree, only at the close of the Spring Term. In the undergraduate course there are certain studies upon which all students are examined at the close of the year, and others upon which only those who desire, are examined. The award of "honors" is confined to those who pass both examinations. The Junior "pass" examination includes the studies of the year in Elementary Law, Contracts, Pleading, Evidence, Torts, and Wills. The Junior "honor" examination includes the studies of the year in Jurispru-

dence and International Law, and such other branches as the Faculty may from time to time prescribe. The Senior "pass" examination includes the studies of the year in Contracts, Real Property, Criminal Law, Equity, American Constitutional Law, Patents, Public and Private Corporations, and Estates. The Senior "honor" examination includes the studies of the year in International Law, Roman Law, and such other branches as the Faculty may from time to time prescribe. Examinations for degrees in the graduate course are held at the close of the Spring Term. Every candidate for a degree, both in the undergraduate and graduate courses, must also submit a written thesis on a given legal topic, which must be approved by the Faculty.

#### LIBRARY, PRIZES, ETC.

The special Library of the Department, which has a permanent endowment for its support (the English Fund, established by the Hon. James E. English, M.A., in 1873), contains about nine thousand volumes, and is open daily during term time. It embraces all the reports of Great Britain and America, with an extensive collection of textbooks and the leading legal periodicals. The students can also draw books from the general University libraries, containing over 175,000 volumes.

The following prizes are open to competition :

The TOWNSEND PRIZE (established by the Hon. James M. Townsend, in 1874), of \$100, to that member of the Senior Class who shall write and pronounce the best oration at the public anniversary exercises on graduation.

The JEWELL PRIZE (established by the Hon. Marshall Jewell, M.A., in 1871), of \$50, to that member of the Senior Class who receives the highest marks at the final examination of his class, at their graduation.

The BETTS PRIZE (established by Frederic H. Betts, M.A., in 1875), of \$50, to that member of the Junior Class who receives the highest marks at his annual examination.

The O. S. SEYMOUR PRIZE (established by the family of the late Hon. Origen S. Seymour, LL.D., in 1885), of \$60, to that member of the graduating class who, in the opinion of the Faculty, has made the greatest improvement in scholarship during both years of his course.

The MUNSON PRIZE (established by C. LaRue Munson, LL.B., in 1890), of \$50, for the best graduating thesis.

One Prize of \$30, and one Prize of \$20, to those two members of Yale Kent Club, who, at a public competitive debate, are pronounced first and second in excellence as debaters.

#### DEGREES

In the undergraduate course the degree of Bachelor of Laws is conferred by the Corporation upon the recommendation of the Faculty of the Department, based on a satisfactory "pass" examination and the submission of a satisfactory thesis, on the following persons :

1st. Attorneys at Law, who have been members of the Department for one year after their admission to the Bar.

2d. Any students who have been members of the Department for not less than two years, and who passed satisfactorily the Junior "pass" examination at the end of their first year.

3d. Students who have been admitted to advanced standing as members of the Senior Class, and have remained in that Class for not less than one year.

The examination for the degree is mainly in writing, and is conducted by an examining committee, appointed by the Superior Court, and the successful candidates, if twenty-one years of age, may be thereupon admitted to the Connecticut Bar.

The degree of Bachelor of Civil Law (B.C.L.) will be conferred, after a satisfactory examination and submission of a satisfactory thesis, on those who complete the second special course of two years. In the graduate course the degrees of Master of Laws (M.L.) and Doctor of Civil



Law (D.C.L.) are conferred under the conditions before specified.

Degrees are awarded, in cases of students of unusual merit, *cum laude*, *magna cum laude*, or *summa cum laude*.

#### EXPENSES

The fees for tuition and use of the library in the undergraduate and first special courses are \$45 for the Fall Term, \$35 for the Winter Term, and \$35 for the Spring Term, or \$100 for the entire year; and in the graduate and second special courses, for the first year, \$50 for the Fall Term, \$40 for the Winter Term, and \$40 for the Spring Term, or \$125 for the whole year; and for the second year, \$80 for the Fall Term, \$70 for the Winter Term, and \$70 for the Spring Term, or \$200 for the whole year; to be paid to the Treasurer of the University in advance, or secured by a bond with surety to his satisfaction. Where payment is not made in advance, interest will be added. All members of the Law Department are required to pay, in advance, an annual assessment of \$5 for the use of the University Library. The fee for graduation is \$5, and the Court fees for admission to the Bar are \$8. A further fee of \$5 is chargeable for admission to practice in the United States Courts for the District of Connecticut, if this is also desired. The tuition charges for other special students vary in proportion to the amount of instruction and supervision required. Board and lodgings can be obtained at prices ranging from \$5 a week upwards.

For further particulars, inquiries may be addressed to Professor Francis Wayland, Dean of the Faculty.

## LIBRARIES

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ADDISON VANNAME, M.A., *Librarian*

FRANKLIN B. DEXTER, M.A., *Assistant Librarian*

J. SUMNER SMITH, B.A., *Librarian of the Linonian and Brothers  
Library*

ANNIE E. HUTCHINS, *Assistant*

HENRY R. GRUENER, *Assistant*

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The Standing Committee in charge of the Library, appointed by the Corporation, consists of the following:—President DWIGHT, Ex-President PORTER, Professors SALISBURY, DAY, FISHER, NEWTON, and LOUNSBURY, and the Librarian.

The whole number of volumes in the several libraries of the University is over 200,000.

The UNIVERSITY LIBRARY contains about 150,000 volumes and many thousands of unbound pamphlets. For some years past the average annual increase has been 5,000 volumes. Of current periodical publications, including publications of learned societies, the Library receives an unusually large number, the foreign serials alone being not less than five hundred. While designed especially for the use of the officers, resident graduates, and students of the several Departments of the University, other persons may have the privilege of consulting and, by permission of the Library Committee, of drawing books. The Library is open daily, except Sundays, in term-time, from 9:30 A. M. to 5 P. M. (in Winter to 4:30 P. M.). In the Winter vacation it is open during the morning hours, and in the Summer vacation on Monday, Wednesday, and Saturday mornings.

The occupation of the new library building, erected by the munificence of the late Hon. Simeon B. Chittenden, of Brooklyn, N. Y., began with the present College year.

The LINONIAN AND BROTHERS LIBRARY, occupying the south wing of the old Library building, contains 30,000 volumes, to which additions of not far from one thousand volumes, chiefly of the best current literature, are annually made. It is designed primarily for the use of the students, and is open in term-time, daily, except Sundays, from 9:30 to 11 A. M., and from 1:30 to 3 P. M. (on Saturdays to 4 P. M.). In vacation it is open on Wednesdays and Saturdays from 10 A. M. to 12 M.

In addition to the periodicals received at the University Library there will be found in the Reading Room (in the north wing of the Library) forty-six daily newspapers, American and foreign, fifty weeklies, and sixty periodicals. This is open daily in term-time from 9:30 A. M. to 8 P. M. (on Sundays from 1 to 8 P. M.).

In Dwight Hall, which is open daily from 7:45 A. M. to 9 P. M., will also be found forty-five newspapers and periodicals, mostly religious, and a library of nearly 1,000 volumes selected mainly with reference to the study of the Bible.

The LAW LIBRARY, containing about 9,000 volumes, among which are included complete sets of the English, American, Irish, and Canadian Reports, occupies rooms adjoining those of the Law School in the County Court House. It is open daily in term-time from 8:30 A. M. to 12:45 P. M., and from 2 to 5:30 P. M. (except Saturday afternoon); in vacation from 9 A. M.

The SHEFFIELD SCIENTIFIC SCHOOL LIBRARY, in Sheffield Hall, is a valuable collection of 6,000 volumes, chiefly mathematical.

The TROWBRIDGE REFERENCE LIBRARY of the Divinity School, in Bacon Memorial Hall, contains over 3,000 volumes of standard and recent theological literature. It is open in term-time throughout the afternoon.

The LOWELL MASON LIBRARY OF CHURCH MUSIC, in West Divinity Hall, is accessible to those interested in the study of this subject. It embraces about 8,000 titles in 4,000 volumes.

The Art School has a Library of about 500 volumes.

The Library of the Medical School is incorporated in the University Library.

The Library of the American Oriental Society, consisting of about four thousand books and manuscripts, is deposited in the University Library building.

# PEABODY MUSEUM OF NATURAL HISTORY

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## TRUSTEES

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## CURATORS

OTHNIEL C. MARSH, PH.D., LL.D., *Curator of the Geological Collection*

ADDISON E. VERRILL, M.A., *Curator of the Zoological Collection*

EDWARD S. DANA, PH.D., *Curator of the Mineralogical Collection*

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In 1866, George Peabody, of London, but of Massachusetts birth, entrusted to a board of Trustees, selected by him, the sum of \$150,000, "to found and maintain a Museum of Natural History, especially in the departments of Zoology, Geology, and Mineralogy, in connection with Yale College." Of this sum \$100,000 was devoted by Mr. Peabody to the erection, "on land to be given for that purpose by the President and Fellows of Yale College, of a fire-proof building," "planned with special reference to its subsequent enlargement," to be, "when completed, the property of Yale College." Of the remainder of the gift, \$20,000 was set apart to "accumulate as a building fund," and \$30,000 to meet by its income from investment the expenses attending "the care of the museum, the increase of its collections, and the general interests of the departments of science before named."

Ten years later, in 1876, the first wing of the Museum—the part now standing—was completed and furnished with

cases at a cost of \$175,000, the whole outlay being met by the accumulated building fund. The central part of the projected structure and the South wing—which will extend it to Library street—remain to be built whenever the means available for the purpose shall be adequate. The central part is much needed, as only a small part of the specimens secured can now be placed on exhibition in the first wing.

The first floor of the building is devoted to the department of Mineralogy and to the purposes of a large lecture room. The minerals occupy cases in the west room, the door of which fronts the entrance to the Museum. The minerals of the Gibbs collection, deposited by Col. George Gibbs with the College in 1809-10, and purchased in 1825 at a cost of \$20,000, and the extensive accumulations since made, are here preserved and for the most part on exhibition, making it one of the largest public collections in the country. The private cabinet of Professor Brush, arranged in drawers in his private room on the same story, although not open to general exhibition, adds greatly to the means of study and investigation in this department. Besides minerals, the exhibition room contains one of the largest collections of meteorites in the country; among the specimens, there are the famous mass of meteoric iron from Texas, weighing 1635 pounds; some hundreds of meteorites, large and small, all of which came from a single fall in Iowa, in May, 1879; the interesting Weston meteorite, which fell at Weston, Connecticut, in 1807, and was soon after described at length by Professors Silliman and Kingsley; besides many others of special interest. A case in the center of the room contains the large and beautiful collection of Chinese artistic work in stone, chiefly in jade and agate, with other like objects, bequeathed by Dr. S. Wells Williams, who was for forty-three years in China as Christian philanthropist, editor, author, and attaché to the American legation, and for some years before his decease was the Professor of Chinese in the University. The large room on the same story adjoining the Mineral room, on the north side of the hall, is arranged for mineralogical

and blowpipe instruction, with desks and a students' cabinet of minerals, and is under the charge of Professor Penfield.

The second floor is given up to Geology and Palaeontology. The western exhibition room is occupied mainly by a collection of invertebrate fossils, arranged zoologically. The table-cases contain a series illustrative of Dana's Manual of Geology. The collections of invertebrate fossils are especially in charge of Dr. C. E. Beecher.

The southern room contains vertebrate fossils. The latter are mostly collections made by Professor Marsh, the larger part from regions west of the Mississippi, in the various states and territories of the Rocky Mountain region, Oregon, etc. In this room, the horizontal case to the left of the entrance contains a large suite of specimens of remains of the *toothed* birds—the *Hesperornis* and *Ichthyornis*—discovered by Professor Marsh in the Cretaceous rocks of Kansas; and near by in the first vertical case against the wall are the bones of a large *Mastodon* from Southern New York. In the center of the room, there are a part of the bones of a gigantic *Dinosaur* from Wyoming, and, standing vertically a large slab with the skeleton of a *Mosasaur* from Kansas. The horizontal case to the right of the entrance and the vertical case adjoining it against the west wall contain the remains of another *Dinosaur* about 30 feet long, which, as the specimens show, had ranges of very broad and thick plates, and one or two rows of immense spines, along the back. In the lower part of the next vertical case, lies a thigh-bone of an *Atlantosaurus* (the largest of *Dinosaurs*, and of land animals yet known), this bone having a length (when entire) of about seven feet. In a horizontal case on the south side of the same room there are, among the feet of various animals, the bones of the feet of three-toed and four-toed horses from the lower Tertiary of Wyoming. In two wall-cases at the southeastern corner are the remains of the *Dinocerata*, huge mammals from the Eocene of Wyoming. In the second wall-case on the east are the bones of the *Miocene Brontotheridae* from Dakota and Nebraska.

Of the large collection of foot-prints belonging to the University, only a few fine slabs are on exhibition, part of them in each of the two exhibition-rooms of the second story. One of the most interesting is a slab about twelve feet long, covered throughout with raindrop impressions, and, besides these, two lines of footprints of biped reptiles, one line of them extending the whole length of the slab.

The third story is occupied with the zoological collections so far as there is room for their exhibition. The general zoological collection occupies the western room; and nearly the whole has been accumulated since Professor Verrill took charge of the department. The specimens are well arranged for exhibition and all labelled. Facing the south door stands a vertical case devoted to the Sponges, among which are many species of the siliceous or glass sponges (*Euplectella*, etc.). Beyond the sponges, twelve cases are filled with the collection of corals, which is one of the most extensive in the country. These are followed by the Echinoderms, etc. Several cases are devoted to a collection of the marine invertebrates of New England, which is nearly complete. Other cases contain special collections of the shells and corals of the Pacific Coast of America; of the corals of Bermuda; of the shells of Florida, etc. The collections are rich in species from the deep-sea dredgings in the Atlantic, but only a small part are on exhibition. Overhead are models, of natural size, of two of the huge Cephalopods of the world: one an Octopus from California, 28 feet in diameter (between the tips of opposite arms), and the other, nearer the door, a species of the Newfoundland seas, related to the Squids, having enormous eyes, and a length from the posterior extremity to the tip of the longer arms, of 42 feet. The models were made for the zoological department by Mr. J. H. Emerton.

The southern exhibition-room of the zoological story contains a collection of skeletons in cases on its east and south sides, commencing near the door. These are deposited by Professor Marsh. The skeletons of Mammals,



beginning with man and the apes, occupy all the east side; and then come the birds, reptiles, and fishes. The rest of the cases are occupied with collections of Vertebrates, both mounted and alcoholic, and include a nearly complete series of the species inhabiting New England.

The second and third stories have also large laboratories and workrooms, devoted to the department represented in the exhibition-rooms of the story. Those of the second or geological story are in charge of Professor Marsh; and those of the third or zoological story, besides serving for workrooms, are for the laboratory exercises and instruction of students in General Zoology under Professor Verrill. These rooms contain also large collections of specimens arranged in drawers and trays, which are open to special students in the department.

In the fourth story there is a large Archaeological collection. As the funds of the Museum are restricted to the departments of Mineralogy, Geology, and Zoology, the cases of the old Yale Museum were fitted up for this collection.

The basement is devoted to workrooms and storerooms, and contains a vast amount of specimens, in the departments especially of Palaeontology and Zoology. This part of the building is closed to visitors.

The exhibition-rooms of the Museum are open between 9 A. M. and 6 P. M., except in the winter, when the hours are from 9 A. M. to 5 P. M. The janitor of the building is Mr. J. Rice, 92 High street.

# THE OBSERVATORY

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THE OBSERVATORY has been built from the avails of the gift of the late Hon. Oliver F. Winchester, of New Haven, on land given by the late Mrs. Cornelia L. Hillhouse and her daughters. The principal astronomical instruments now in use are a six-inch Heliometer constructed by Messrs. Repsold, of Hamburg, and an eight-inch Equatorial by Messrs. Grubb, of Dublin, given by Mr. Edward M. Reed, of New Haven.

Besides its ordinary astronomical work, the Observatory maintains two public services. Continuous time-signals are transmitted from the distributing clock at the Observatory to the railroads and other parties. The Observatory offers facilities also to persons interested in accurate Thermometry for the comparison of thermometers with standard instruments.

For the proper performance of these services the following equipment is in use :

1. Standard clocks, a transit instrument, chronographs, and the accessories for refined accuracy in the determination and transmission of time.

2. Apparatus for research and comparison in Thermometry, including a collection of the best thermometers obtainable of the foreign makers and observatories which devote special attention to thermometric standards.

Descriptive circulars of the Thermometric service may be obtained by addressing the Observatory.

By the will of Professor Elias Loomis, who died in August, 1889, the Observatory receives one-third of the income, and will ultimately receive the entire income, of a fund established by him and called *the Loomis Fund*. The income received is to be applied to all, or one, or more, of the following objects only, namely, the payment of the salaries of observers whose time is exclusively devoted to the making of observations for the promotion of the science of Astronomy, or to the reduction of astronomical observations and their discussion in papers prepared for publication, or to defraying the expense of publishing these observations and of publishing investigations based upon astronomical observations. The principal of the Loomis Fund is about three hundred thousand dollars.

## UNIVERSITY PRIZES

The JOHN A. PORTER PRIZE, of the value of two hundred and fifty dollars, established by the Kingsley Trust Association in 1872, is offered for the best English Essay on a prescribed subject. Competing essays must be handed in after the close of the Spring Recess, and the award will be announced on Commencement Day. Any person who has been pursuing a regular course for a degree in any Department during the whole of the current College year, may compete for this prize. If none of the competing essays is of sufficient merit, the prize will not be awarded.

The subjects for essays in 1891 are as follows :—

1. The French Drama during the last thirty years.
2. Spanish Politics during the first three decades of this century.
3. The sociological principles underlying Hebrew legislation.
4. The conflict of the Church with Feudalism in the time of Gregory VII.
5. The political and theological creed of Dante.
6. The ethics of plagiarism.
7. Darwin's theory of Instinct.
8. Subsidizing American vessels.

The Essays will be due on May 1, 1891, at the office of the editor of the *New Englander*, No. 105 Grove street, New Haven.

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The COBDEN CLUB SILVER MEDAL is awarded annually to that undergraduate of either the Academical or the Scientific Department who shows the greatest proficiency in the elements of Political Economy.

# LISTS OF STUDENTS

## DEPARTMENT OF PHILOSOPHY AND THE ARTS

### COURSES OF GRADUATE INSTRUCTION

Herbert Austin Aikins, B.A. } University of Toronto, 1887 }	<i>Toronto, Canada</i>	44 High st.
Arthur Chambers Alexander, PH.B. } Yale University, 1889 }	<i>Honolulu, H. I.</i>	57 N. S. H.
George L. Amerman, B.A. } Yale University, 1890 }	<i>New Haven, Conn.</i>	137 Wall st.
Alfred Appell, B.A. } Augustana College, 1890 }	<i>Galva, Ill.</i>	435 Elm st.
Frederic Elijah Beach, PH.B. } Yale University, 1883 }	<i>New Haven, Conn.</i>	44 Lyon st.
Lars Herman Beck, B.A. } Augustana College, 1885 }	<i>St. James, Minn.</i>	435 Elm st.
Paul H. Birdsall, M.A. } Trinity College, 1889 }	<i>New Haven, Conn.</i>	629 Chapel st.
Charles Bemis Bliss, B.A. } Yale University, 1890 }	<i>Lebanon, Conn.</i>	64 Howe st.
Carl August Blomgren, B.A. } Augustana College, 1885 }	<i>Bridgeport, Conn.</i>	435 Elm st.
John Vernon Bowersox, B.A. } Muskingum College, 1886 }	<i>Edgerton, O.</i>	421 Temple st.
Lester Bradner, Jr., B.A. } Yale University, 1889 }	<i>New Haven, Conn.</i>	16 York sq.
James Henry Breasted, B.A. } North-Western College, 1890 }	<i>Chicago, Ill.</i>	64 Lake pl.
William Fances Breeze, PH.B. } Yale University, 1889 }	<i>San Francisco, Cal.</i>	New Haven House
Philip Embury Browning, B.A. } Yale University, 1889 }	<i>Brooklyn, N. Y.</i>	106 Howe st.
Carleton Lewis Brownson, B.A. } Yale University, 1887 }	<i>New Haven, Ct.</i>	Athens, Greece
Edward F. Buchner, B.A. } Western College, Iowa, 1889 }	<i>Gibson City, Ill.</i>	115 Dwight st.
William Harper Butler, PH.B. } Yale University, 1890 }	<i>Olean, N. Y.</i>	248 York st.

Perry Moore Caldwell, PH.B. } Yale University, 1889	<i>Wheeling, W. Va.</i> 36 Elm st.
Augustus Stiles Carrier, B.A. } Yale University, 1879	<i>Chicago, Ill.</i>
Herbert DeWitt Carrington, PH.B. } Yale University, 1884	<i>New Haven, Conn.</i> 18 College st.
Frederick Lincoln Chase, B.A. } University of Colorado, 1886	<i>Boulder, Col.</i> Observatory
Ralph Roger Clapp, PH.B. } Yale University, 1890	<i>Pawtucket, R. I.</i> 88 Wall st.
Charles Beed Clark, B.A. } Battle Creek College, 1888	<i>Augusta, Mich.</i> 33 Shelton av.
Arthur Willis Colton, B.A. } Yale University, 1890	<i>Wayne, Mich.</i> 297 George st.
Clark Eugene Crandall, M.A. } Milton College, 1886	<i>New Haven, Conn.</i> 109 Elm st.
Harlan Creelman, B.D. } Yale University, 1889	<i>Worthington, Mass.</i>
Olaus Dahl, B.A. } Luther College, 1885, B.D. Yale University, 1889	<i>Lockiel, Wisc.</i> 1010 Chapel st.
George Flavel Danforth, PH.B. } Cornell University, 1890	<i>Buffalo, N. Y.</i> 64 Lake pl.
Arthur Hill Daniels, B.A. } Olivet College, 1887, B.D. Yale University, 1890	<i>Millis, Mass.</i> 97 W.
John Havemeyer Daniels, B.A. } Yale University, 1889	<i>Jersey City, N. J.</i> 439 George st.
George William Davis, } Owens Coll., England, 1880	<i>Huron, N. Y.</i>
Alonzo Alvin Delarme, M.A. } Indiana University, 1890	<i>New Haven, Conn.</i> Lawrence st.
Edwin Kirk Dillingham, PH.B. } Yale University, 1889	<i>New Orleans, La.</i> 90 Wall st.
William Stahl Ebersole, M.A. } Lebanon Valley College, 1888	<i>Mt. Pleasant, Pa.</i> 22 Whalley av.
Frederick Wesley Ellis, B.A. } Yale University, 1889	<i>Ansonia, Conn.</i> 106 Howe st.
Wolcott Webster Ellsworth, B.A. } Yale University, 1890	<i>Hartford, Conn.</i> 88 Park st.
Carl J. Elofson, B.A. } Augustana College, 1888	<i>Valley Springs, S. Dak.</i> 435 Elm st.
Harootune Enfiajian, PH.B. } Yale University, 1889	<i>Harpoot, Turkey</i> 20 Insurance B'ld'g.
Oliver Cummings Farrington, M.S. } Maine State College, 1888	<i>Portland, Me.</i> 78 B.
Irving Fisher, B.A. } Yale University, 1888	<i>New Haven, Conn.</i> 119 Park st.

Henry Thatcher Fowler, B.A. }	<i>Poughkeepsie, N. Y.</i>
Yale University, 1890 }	1010 Chapel st.
Henry Simeon Gekeler, B.A. }	<i>Buffalo, N. Y.</i>
Heidelberg College, 1886 }	312 Elm st.
Edgar Johnson Goodspeed, B.A. }	<i>Morgan Park, Ill.</i>
Denison University, 1890 }	383 George st.
George Stephen Goodspeed, M.A. }	<i>New Haven, Conn.</i>
Brown University, 1883 }	383 George st.
William Griffiths, B.D. }	<i>Cwmilynnfell, S. Wales</i>
Yale University, 1889 }	22 College st.
Matthew Griswold, Jr., PH.B. }	<i>Erie, Pa.</i>
Yale University, 1888 }	A.
Charles Humphrey Hamill, B.A. }	<i>Chicago, Ill.</i>
Yale University, 1890 }	83 Grove st.
Karl Pomeroy Harrington, M.A. }	<i>Middletown, Conn.</i>
Wesleyan University, 1885 }	Middletown
Harald Hegstrom, B.A. }	<i>Buffalo, N. Y.</i>
Augustana College, 1890 }	109 Meadow st.
Tomonobu Hirotsu, }	<i>Yanagawa Kyushu, Japan</i>
Kyoto Theol. Sem., 1889 }	113 Dwight st.
Charles Horswell, B.A. }	<i>Evanston, Ill.</i>
Northwestern University, 1884 }	
Morihiro Ichihara, }	<i>Kyoto, Japan</i>
Kyoto Theol. Sem., 1879 }	67 w.
Fritz Jacobson, B.A. }	<i>New Haven, Conn.</i>
Augustana College, 1885, }	4 Mechanic st.
PH.D. Yale University, 1889 }	
D. Melancthon James, B.A. }	<i>Fair Haven, Ct.</i>
Randolph-Macon College, 1881, }	247 Prospect st.
B.D. Yale University, 1888 }	
Elliott Proctor Joslin, B.A. }	<i>Oxford, Mass.</i>
Yale University, 1890 }	1010 Chapel st.
Charles Foster Kent, B.A. }	<i>Palmyra, N. Y.</i>
Yale University, 1889 }	107 York st.
Harvey Merrill Lawson, PH.B. }	<i>Union, Conn.</i>
Yale University, 1890 }	56 N. S. H.
Thomas George Lee, M.D. }	<i>New Haven, Conn.</i>
University of Pa., 1886 }	373 Crown st.
Frank Dodge Leffingwell, B.A. }	<i>Montclair, N. J.</i>
Yale University, 1887 }	A.
James Crawford Lester, B.A. }	<i>Los Angeles, Cal.</i>
Amherst College, 1890 }	115 Elm st.
Charles Clark Lewis, B.A. }	<i>Battle Creek, Mich.</i>
Battle Creek College, 1882 }	33 Shelton av.
Jeremiah K. Light, B.A. }	<i>Lebanon, Pa.</i>
Franklin & Marshall Coll., 1889 }	109 Elm st.
Thomas Jay Lloyd, B.A. }	<i>East Orange, N. J.</i>
Yale University, 1890 }	64 Howe st.

Clinton Lockhart, M.A. }		<i>Lexington, Ky.</i>	128 Howard av.
Kentucky University, 1888 }			
Edwin Hoyt Lockwood, PH.B. }		<i>New Canaan, Conn.</i>	57 N. S. H.
Yale University, 1888 }			
William Ellison Lockwood, M.D. }		<i>New Haven, Conn.</i>	32 Pearl st.
Yale University, 1885 }			
Frank Ranney Luckey, B.S. }		<i>New Haven, Conn.</i>	21 Eld st.
Cornell University, 1882, }			
B.D. Yale University, 1888 }			
Boynton Wells McFarland, PH.B. }		<i>New Haven, Ct.</i>	306 Lawrence st.
Yale University, 1889 }			
Frederic William Mar, B.A. }		<i>West Haven, Conn.</i>	West Haven
Yale University, 1888 }			
Frank Sherman Meara, B.A. }		<i>Cottage City, Mass.</i>	70 N. M.
Yale University, 1890 }			
Frederic William Charles Meyer, }		<i>New Haven, Conn.</i>	12 Broad st.
Roch. Theol. Sem. (German Dep't.), 1888 }			
Frank Justus Miller, M.A. }		<i>New Haven, Conn.</i>	433 Georgest.
Denison University, 1882, }			
James Lee Mitchell, B.A. }		<i>New Haven, Conn.</i>	28 Clinton av.
Harvard University, 1884 }			
Kumato Morita, }		<i>Kyoto, Japan</i>	439 George st.
Kyoto Theol. Seminary, 1879 }			
Edwin Morrison, PH.B. }		<i>Cincinnati, O.</i>	1184 Chapel st.
Yale University, 1888 }			
William James Mutch, B.A. }		<i>New Haven, Conn.</i>	194 Cedar st.
University of Wisconsin 1882, }			
B.D. Yale University, 1885 }			
George Nathan Newman, B.A. }		<i>Buffalo, N. Y.</i>	24 Howe st.
Yale University, 1890 }			
Gaylord Hawkins Patterson, B.A. }		<i>Slippery Rock, Pa.</i>	439 George st.
Ohio Wesleyan University, 1888, }			
PH.D. Yale University, 1890 }			
Perry Oliver Powell, M.A. }		<i>Monmouth, Oregon</i>	109 Elm st.
Kentucky University, 1888, B.D. }			
Yale University, 1890 }			
Artemas Ward Reynolds, B.A. }		<i>New Haven, Conn.</i>	14 Park st.
Colgate University, 1885 }			
Frank Russell Rich, PH.B. }		<i>New Haven, Conn.</i>	A.
Yale University, 1890 }			
Erwin W. Runkle, B.A. }		<i>Lisbon, Iowa</i>	115 Dwight st.
Western College, Iowa, 1890 }			
Leonard Cutler Sanford, B.A. }		<i>New Haven, Conn.</i>	216 Crown st.
Yale University, 1890 }			
Daniel Shepardson, Jr., B.A. }		<i>Granville, O.</i>	107 York st.
Denison University, 1888 }			
Francis Wayland Shepardson, B.A. }		<i>Granville, O.</i>	1570 Chapel st.
Denison Univ., 1882, & Brown Univ., 1883, }			
M.A. Denison University, 1887 }			



Charles Francis Small, B.A. } Yale University, 1890 }	<i>Pawtucket, R. I.</i> 1161 Chapel st.
Ernest Ellsworth Smith, PH.B. } Yale University, 1888 }	<i>New Haven, Ct.</i> 1018 Chapel st.
Herbert Augustine Smith, B.A. } Yale University, 1889 }	<i>Worcester, Mass.</i> 77 W.
Percy Franklin Smith, PH.B. } Yale University, 1888 }	<i>New Haven, Conn.</i> 13 Home pl.
Elias Hershey Sneath, M.A. } Lebanon Valley College, 1884, } PH.D. Yale University, 1890 }	<i>Middletown, Conn.</i> Middletown
Erwin Starr Sperry, PH.B. } Yale University, 1887 }	<i>Ansonia, Conn.</i> Ansonia
Walter Stairs, M.A. } Kentucky University, 1888 }	<i>Elm Grove, Ky.</i> 128 Howard av.
Franklin Henry Taylor, M.A. } Wesleyan University, 1887 }	<i>Middletown, Conn.</i> Middletown
James TenBroeke, B.A. } Middlebury College, 1884 }	<i>Panton, Vt.</i> 383 George st.
Herbert Cushing Tolman, PH.D. } Yale University, 1890 }	<i>Hanover, Mass.</i> 1010 Chapel st.
John Clayton Tracy, PH.B. } Yale University, 1890 }	<i>Fair Haven, Conn.</i> A.
Edwin Alonzo Warfield, B.A. } Western Maryland College, 1882, } B.D. Yale University, 1890 }	<i>Urbana, Md.</i> 312 Elm st.
Philip Patterson Wells, B.A. } Yale University, 1889 }	<i>Louisville, Ky.</i> 107 York st.
Henry Lord Wheeler, PH.B. } Yale University, 1890 }	<i>Chicago, Ill.</i> 126 Wall st.
John Whitmore, B.A. } Yale University, 1886 }	<i>New Haven, Conn.</i> 147 Bradley st.
Herbert Lockwood Willett, B.A. } Bethany College, 1886 }	<i>Dayton, O.</i> 99 Wall st.
Tetsutaro Yoshida	<i>Saitama, Japan</i> 27 Lynwood st.
Emanuel Sprankle Young	<i>Mt. Morris, Ill.</i> 34 Cottage st.
Kichiro Yuasa, B.D. } Oberlin College, 1888 }	<i>Gunma, Japan</i> 439 George st.

# ACADEMICAL DEPARTMENT

## (YALE COLLEGE)

### SENIOR CLASS

Edward Walter Abell	<i>Meriden, Conn.</i>	88 N. M.
Hildreth James Ackroyd	<i>Albany, N. Y.</i>	108 N.
George Irving Adams	<i>Westborough, Mass.</i>	75 N. M.
Thomas Gove Adams	<i>New Haven, Conn.</i>	88 N. M.
Alfred Lawrence Aiken	<i>Norwich, Conn.</i>	270 L.
Matthias Charles Arnot	<i>Elmira, N. Y.</i>	240 D.
Grosvenor Atterbury	<i>New York City</i>	71 W.
Gurdon Franklin Bailey	<i>Groton, Conn.</i>	116 N.
Albert Ruggles Baker	<i>Hartford, Conn.</i>	34 S. M.
Ernest Hickok Baldwin	<i>Cheshire, Conn.</i>	75 N. M.
Cecil Kittredge Bancroft	<i>Andover, Mass.</i>	122 N.
Albert Hampton Barclay	<i>Pittsburgh, Pa.</i>	54 S. M.
John Sanford Barnes, Jr.	<i>New York City</i>	220 D.
James Foote Barnett	<i>Grand Rapids, Mich.</i>	134 F.
Walter Alden Barrows	<i>Westborough, Mass.</i>	120 N.
William Tenney Bartley	<i>Bridgeport, Conn.</i>	53 S. M.
Frank Sheridan Benninghoff	<i>Clyde, N. Y.</i>	73 N. M.
Louis Frederic Holbrook Betts	<i>New York City</i>	218 D.
David Lane Billings	<i>New York City</i>	211 D.
William Edward Billings	<i>New York City</i>	229 D.
Walter Kissam Birdsall	<i>Jersey City, N. J.</i>	263 L.
Frank Sandford Blair	<i>Angelica, N. Y.</i>	100 N.
James Kingsley Blake	<i>New Haven, Conn.</i>	249 L.
Elijah George Boardman	<i>Cleveland, O.</i>	131 F.
John Alden Bovey	<i>Minneapolis, Minn.</i>	168 F.
Joseph Bowden, Jr.	<i>New Haven, Conn.</i>	122 Rosette st.
William Lewis Bradley	<i>New Haven, Conn.</i>	139 Chestnut st.
George Stephenson Brewster	<i>New York City</i>	268 L.
James Wallace Broatch	<i>Omaha, Nebr.</i>	145 F.
Charles Marshall Brown	<i>Pittsburgh, Pa.</i>	225 D.
Francis Theodore Brown	<i>Glens Falls, N. Y.</i>	108 N.
John Henry Buck	<i>Hartford, Conn.</i>	256 L.
John Lee Bunce	<i>Hartford, Conn.</i>	277 L.
Curtis Clark Bushnell	<i>New Haven, Conn.</i>	38 S. M.
Gouverneur Calhoun	<i>Chicago, Ill.</i>	228 D.
Charles Gibbs Carter	<i>Titusville, Pa.</i>	203 D.

Ernest Chadwick	<i>Lyme, Conn.</i>	145 F.
Starling Winston Childs	<i>Pittsburgh, Pa.</i>	217 D.
Alfred Mainwaring Coats	<i>Providence, R. I.</i>	211 D.
Duane Phillips Cobb	<i>Kankakee, Ill.</i>	238 D.
Samuel Colgate, Jr.	<i>Orange, N. Y.</i>	241 L.
Charles Parsons Cooley	<i>Hartford, Conn.</i>	241 L.
William Russell Cone Corson	<i>Hartford, Conn.</i>	234 D.
John Joughin Cox	<i>Bedford, N. Y.</i>	273 L.
Frank Crawford	<i>Colebrook, N. H.</i>	10 S.
Harvey Williams Cushing	<i>Cleveland, O.</i>	123 N.
William Sage Dalzell	<i>Pittsburgh, Pa.</i>	242 L.
Edgar William Danner	<i>Paterson, N. Y.</i>	61 S. M.
Henry Murray Dater	<i>Brooklyn, N. Y.</i>	64 High st.
Carroll Preston Davis	<i>Pittsburgh, Pa.</i>	235 D.
Clarence Seward Davis	<i>Jersey City, N. Y.</i>	224 D.
William Beach Dean	<i>New York City</i>	238 D.
Lyle Alexander Dickey	<i>Haiku, Maui, H. I.</i>	12 S.
Frank Ayer Dillingham	<i>Summit, N. Y.</i>	222 D.
John Wesley Doane, Jr.	<i>Chicago, Ill.</i>	280 L.
Edward Payson Drew	<i>McIndoes Falls, Vt.</i>	85 N. M.
Henry Dunnell	<i>New York City</i>	124 N.
Louis Cazenove duPont	<i>Washington, Del.</i>	227 Crown st.
Richard Bancker Duyckinck, Jr.	<i>Morristown, N. Y.</i>	61 S. M.
Charles Russell Ely	<i>Frederick City, Md.</i>	156 F.
Joe Garner Estill	<i>Winchester, Tenn.</i>	92 N. M.
James Eugene Farmer	<i>Cleveland, O.</i>	242 L.
Harry Tristram Ferris	<i>Riverside, Conn.</i>	105 N.
Parnell Ellis Fisher	<i>Hope Valley, R. I.</i>	39 S. M.
Russell Kennedy Forsyth	<i>Allegheny, Pa.</i>	217 D.
Reginald Foster	<i>New York City</i>	43 S. M.
Raymond Hilliard Gage	<i>Dover, N. Y.</i>	85 N. M.
Nathan Glicksman	<i>Chippewa Falls, Wisc.</i>	28 S.
DeForest Grant	<i>New York City</i>	222 D.
Frederic William Grau	<i>Brooklyn, N. Y.</i>	272 L.
William Phillips Graves	<i>Andover, Mass.</i>	Dwight Hall
Ashbel Green, Jr.	<i>New York City</i>	137 F.
Paul Ecoff Greer	<i>Chicago, Ill.</i>	175 F.
Franklin Underwood Gregory	<i>Brooklyn, N. Y.</i>	178 L.Y.C.
Hippolyte Washington Gruener	<i>New Haven, Conn.</i>	122 N.
Thomas Hackett Guy	<i>Troy, N. Y.</i>	8 S.
Edwin Victor Hale	<i>Cleveland, O.</i>	271 L.
Charles Howard Hall	<i>Exeter, N. H.</i>	120 N.
Lewis Carroll Hall	<i>New Canaan, Conn.</i>	74 N. M.
Lane Schofield Hart	<i>Harrisburg, Pa.</i>	105 N.
Theodore Stuart Hart	<i>Farmington, Conn.</i>	72 N. M.

Perry Williams Harvey	Cleveland, O.	123 N.
George Pickard Hawkes	New Haven, Conn.	314 Crown st.
Joseph Eugene Hedges	Oregon City, Oregon	186 C.
George Henry Hefflon	Deep River, Conn.	9 S.
Joseph Rogers Herod	Indianapolis, Ind.	218 D.
William Thurston Hincks	Bridgeport, Conn.	10 S.
George Walter Hodges	Bristol, Conn.	92 N. M.
Herbert Wolcott Holcomb	Omaha, Nebr.	210 D.
Louis Lawton Hopkins	Boston, Mass.	209 D.
Gerard Beekman Hoppin	New York City	220 D.
Edward Franklin Horr	Bridgeport, Conn.	53 S. M.
Hampton Pierson Howell	West Hampton Center, N. Y.	279 L.
Charles Prentice Howland	New York City	228 D.
James Coleman Ford Huntington	New York City	332 Temple st.
Robert Palmer Huntington, Jr.	New York City	332 Temple st.
Francis deLacey Hyde	Plainfield, N. J.	219 D.
Leland Ingersoll	Cleveland, O.	133 F.
Charles Samuel Ingham	Saybrook, Conn.	186 C.
Edward Swift Isham, Jr.	Chicago, Ill.	277 L.
Stuart Dodge Jessup	Beyrout, Syria	103 N.
Sherman Skinner Jewett, 2d	Buffalo, N. Y.	229 D.
Frederick Morgan Johnson	Norwich, Conn.	270 L.
Vertner Kenerson	New Haven, Conn.	91 N. M.
Edward Learned Kernochan	Pittsfield, Mass.	131 F.
Frederick Strong Kimball	Hartford, Conn.	254 L.
Howard Thayer Kingsbury	New York City	273 L.
Lewis Taylor Knox	New Castle, Pa.	163 F.
Howard LaField	Bridgeport, Conn.	34 S. M.
Albert Lee	New York City	280 L.
William Josiah Leverett	Binghamton, N. Y.	103 N.
Theodore Nelson Lillagore	Philadelphia, Pa.	39 S. M.
Joseph Potts Lloyd, Jr.	East Orange, N. J.	193 C.
Edward Nathaniel Loomis	Brooklyn, N. Y.	263 L.
Archibald John Frederic McBean	Chicago, Ill.	245 L.
Norman McClintock	Pittsburgh, Pa.	180 LVC.
Walter McClintock	Pittsburgh, Pa.	180 LVC.
Robert Gardner McClung	Knoxville, Tenn.	258 L.
Malcolm MacLear	Wilmington, Del.	159 F.
Edward Augustus Manice	New York City	141 F.
Charles Capron Marsh	Rahway, N. J.	210 D.
Arthur Marvin	Cooperstown, N. Y.	9 Trumbull st.
Lafayette Benedict Mendel	Delhi, N. Y.	139 F.
William Revell Moody	Northfield, Mass.	234 D.
Samuel Wylie Black Moorhead	Pittsburgh, Pa.	225 D.
Richard Bartholomew Moriarty	Putnam, Conn.	107 N.

Samuel Benjamin Morison	<i>Minneapolis, Minn.</i>	104 N.
Sherman Morse	<i>Canandaigua, N. Y.</i>	8 S.
Wallace Simon Moyle	<i>Sharon, Mass.</i>	73 N. M.
Winthrop Sargent Gilman Noyes	<i>St. Paul, Minn.</i>	268 L.
Frank Richard Oastler	<i>New York City</i>	254 L.
Harry Leroy Pangborn	<i>Jersey City, N. J.</i>	224 D.
Amasa Junius Parker, Jr.	<i>Albany, N. Y.</i>	236 D.
Willis Nathaniel Parker	<i>Niantic, Conn.</i>	189 C.
Charles Orrin Penfield	<i>Delhi, N. Y.</i>	54 S. M.
John Franklin Plummer, Jr.	<i>New York City</i>	230 D.
Robert Watson Pomeroy	<i>Auburn, N. Y.</i>	240 D.
William Frederick Poole, Jr.	<i>Evanston, Ill.</i>	134 F.
Albert Merriman Reed	<i>Manchester, Vt.</i>	12 S.
Adelbert Lee Reynolds	<i>Waterloo, N. Y.</i>	100 N.
William Castle Rhodes	<i>Cleveland, O.</i>	271 L.
James Richardson	<i>Kansas City, Mo.</i>	181 LYC.
George Phelps Robbins	<i>New York City</i>	249 L.
Allan Gold Robinson	<i>Scranton, Pa.</i>	124 N.
Frederick Harvey Robinson	<i>Corning, N. Y.</i>	29 High st.
William Drown Rorer	<i>Philadelphia, Pa.</i>	189 C.
Arthur Benedict Russell	<i>South Norwalk, Conn.</i>	69 N. M.
Erastus Dean Ryder	<i>Plainfield, N. J.</i>	193 C.
Francis Williams Sacket	<i>Cape Vincent, N. Y.</i>	219 D.
William Henry St. John	<i>Hartford, Conn.</i>	257 L.
Daniel Seales, Jr.	<i>Cleveland, O.</i>	160 F.
John Barry Sears	<i>Chicago, Ill.</i>	226 D.
Ira Emanuel Seidle, B.A. Muhlenberg College, 1890	<i>Lehigh, Pa.</i>	59 S. M.
Samuel Carter Shaw	<i>Redding Ridge, Conn.</i>	157 F.
Henry King Sheldon, Jr.	<i>Brooklyn, N. Y.</i>	7 Library st.
Edward Francis Simms	<i>Paris, Ky.</i>	13 S.
William Erskine Simms, Jr.	<i>Paris, Ky.</i>	13 S.
Hubbard Taylor Simpson	<i>Winchester, Ky.</i>	233 D.
Francis Louis Slade	<i>Orange, N. J.</i>	279 L.
Clement Grubb Smith	<i>Joanna Furnace, Pa.</i>	233 D.
George Ferguson Smith	<i>Andover, Mass.</i>	203 D.
Herbert Knox Smith	<i>Hartford, Conn.</i>	72 N. M.
Ray Burdick Smith	<i>Lincklaen, N. Y.</i>	28 S.
George Howard Street	<i>Exeter, N. H.</i>	69 N. M.
Egerton Swartwout	<i>Stamford, Conn.</i>	256 L.
George Sherman Talcott	<i>New Britain, Conn.</i>	9 S.
Daniel Gleason Tenney	<i>New York City</i>	178 LYC.
William Nevin Thatcher	<i>Pueblo, Col.</i>	129 F.
Samuel Clifton Thompson	<i>Pottsville, Pa.</i>	252 L.
Edward Allen Thurber	<i>Syracuse, N. Y.</i>	158 York st.

John Quillin Tilson	<i>Clear Branch, Tenn.</i>	91 N. M.
John Barnes Townsend	<i>Silver Cliff, Col.</i>	104 N.
Alliene Wetmore Treadwell	<i>New Castle, Pa.</i>	157 F.
Luther Henry Tucker, Jr.	<i>Albany, N. Y.</i>	262 L.
Harry Hallam Tweedy	<i>Binghamton, N. Y.</i>	252 L.
Clifford Gray Twombly	<i>Boston, Mass.</i>	262 L.
Horace Garfield Waite	<i>Chicago, Ill.</i>	121 Elm st.
Frederic Collin Walcott	<i>New York Mills, N. Y.</i>	168 F.
Leonard Eugene Wales, Jr.	<i>Wilmington, Del.</i>	163 F.
George Stewart Walton	<i>Salem, O.</i>	152 F.
Hanford Smith Weed	<i>New Canaan, Conn.</i>	246 L.
Henry Crofut White	<i>New York City</i>	209 D.
Frederick Harrison Williams	<i>Brooklyn, N. Y.</i>	245 L.
Henry Lane Williams	<i>Hartford, Conn.</i>	156 F.
Charles Strong Witbeck	<i>Detroit, Mich.</i>	257 L.
Glen Wright	<i>Cincinnati, O.</i>	230 D.
Ira Platt Younglove	<i>Chicago, Ill.</i>	235 D.

SENIORS, 187

## JUNIOR CLASS

Harry Allen Grant Abbe	<i>Hartford, Conn.</i>	250 L.
Bernard Melzar Allen	<i>Walpole, Mass.</i>	188 C.
Benjamin Latham Armstrong	<i>New London, Conn.</i>	132 F.
Clarence Willis Austin	<i>Suffield, Conn.</i>	135 F.
George Sherwin Clarke Badger	<i>Boston, Mass.</i>	151 F.
Andrew Jackson Balliet	<i>Lehighton, Pa.</i>	71 N. M.
Frank Melville Barber	<i>Wallingford, Conn.</i>	55 S. M.
Arthur Seth Barnes	<i>Bristol, Conn.</i>	40 S. M.
Charles Joseph Bartlett	<i>Barton Landing, Vt.</i>	191 C.
Hugh Aiken Bayne	<i>New Orleans, La.</i>	174 F.
Howard Morton Biscoe	<i>Westborough, Mass.</i>	106 N.
Frederic Courtney Bishop	<i>Bridgeport, Conn.</i>	27 S.
Edward Clarence Bissell	<i>Lakeville, Conn.</i>	165 F.
Walter Phelps Bliss	<i>New York City</i>	255 L.
Edward Boltwood	<i>Pittsfield, Mass.</i>	176 F.
William Bradford Bosley	<i>Livonia, N. Y.</i>	187 C.
Herbert Ovid Bowers	<i>Manchester, Conn.</i>	6 S.
Arthur Stone Brackett	<i>Hartford, Conn.</i>	27 S.
Fred Clark Gallup Bronson	<i>Norwich, Conn.</i>	63 S. M.
Oliver Hart Bronson	<i>Rye, N. Y.</i>	109 High st.
Preston Brown	<i>Lexington, Ky.</i>	173 F.
Stanley Gano Burt	<i>Cincinnati, O.</i>	215 D.

James Trowbridge Carr	<i>Dubuque, Iowa</i>	265 L.
Alfred Bruce Chace	<i>Hudson, N. Y.</i>	135 F.
Howell Cheney	<i>South Manchester, Conn.</i>	216 D.
Knight Dexter Cheney, Jr.	<i>South Manchester, Conn.</i>	216 D.
Paul Ripley Clark	<i>Auburn, N. Y.</i>	146 F.
Ezekiel Field Clay	<i>Paris, Ky.</i>	1010 Chapel st.
George Lawton Coit	<i>Brooklyn, N. Y.</i>	151 F.
George Wetmore Colles, Jr.	<i>Morristown, N. J.</i>	98 N.
Richard Storrs Colton	<i>Brooklyn, N. Y.</i>	20 S.
Elisha Hilliard Cooper	<i>New Britain, Conn.</i>	144 F.
Benjamin Lewis Crosby, Jr.	<i>Halcott Center, N. Y.</i>	208 D.
James Stevens Darcy	<i>Springfield, Mass.</i>	63 S. M.
Arthur Louis Day	<i>Westborough, Mass.</i>	11 S.
Clive Hart Day	<i>Hartford, Conn.</i>	183 LYC.
Albert Grant Dingley	<i>Lewiston, Me.</i>	148 F.
Edward Howard Dodd	<i>Summit, N. J.</i>	237 D.
Richard Gardner Eaton	<i>Wakefield, Mass.</i>	44 S. M.
Percy Coe Eggleston	<i>New London, Conn.</i>	140 F.
Roy Knight Farwell	<i>Freeport, Ill.</i>	140 F.
Percy Finlay	<i>Memphis, Tenn.</i>	130 F.
Wilbur Parkhurst Fish	<i>Elmira, N. Y.</i>	269 L.
Otis Harrison Fisk	<i>Covington, Ky.</i>	205 D.
Edward Henry Floyd-Jones	<i>South Oyster Bay, N. Y.</i>	174 F.
Hiram Fobes	<i>Salem, Conn.</i>	192 C.
Everett Dwight Francis	<i>West Hartford, Conn.</i>	87 N. M.
William Buell Franklin	<i>Lancaster, Pa.</i>	179 LYC.
Harrison Barber Freeman	<i>Hartford, Conn.</i>	147 F.
Charles Hamilton Frost	<i>Plainfield, N. J.</i>	7 S.
Pierpont Fuller	<i>New Haven, Conn.</i>	145 Olive st.
Merrill Williams Gallaway	<i>New York City</i>	255 L.
George Herbert Girty	<i>Cleveland, O.</i>	149 F.
Frederick Everett Grant	<i>Brooklyn, N. Y.</i>	221 D.
Henry Solon Graves	<i>Andover, Mass.</i>	Dwight Hall
Francis Hayt Griffin	<i>Springfield, Mass.</i>	221 D.
Ferdinand Albert Häuslein	<i>Genoa, Ill.</i>	7 S.
Stansbury Tiffany Hager	<i>Brooklyn, N. Y.</i>	126 High st.
Charles Sherman Haight	<i>Brooklyn, N. Y.</i>	166 F.
William Cuthbert Hall, Jr.	<i>Louisville, Ky.</i>	173 F.
Henry Saunders Haskell	<i>Norwich, Conn.</i>	11 S.
William Stockbridge Haskell	<i>West Falmouth, Me.</i>	68 w.
Donald Rose Hinckley	<i>Northampton, Mass.</i>	46 S. M.
Henry Barrett Hinckley	<i>Northampton, Mass.</i>	46 S. M.
Frederick Wallis Hinkle	<i>Cincinnati, O.</i>	274 L.
Charles Revell Holden	<i>Chicago, Ill.</i>	16 S.
Burton Page Hollister	<i>Cincinnati, O.</i>	223 D.

George Buell Hollister	<i>Rutherford, N. J.</i>	177 F.
Sidney Hosmer	<i>Paterson, N. J.</i>	153 F.
Arthur Carter Hume	<i>Poughkeepsie, N. Y.</i>	204 D.
Daniel Trumbull Huntington	<i>Hartford, Conn.</i>	247 L.
Howard Huntington	<i>Plainfield, N. J.</i>	106 N.
James William Husted, Jr.	<i>Peekskill, N. Y.</i>	204 D.
William James Hutchins	<i>Los Angeles, Cal.</i>	373 Crown st.
James W. D. Ingersoll	<i>Marengo, Ill.</i>	90 Park st.
William Crane Ivison	<i>New York City</i>	177 F.
Pierre Jay	<i>New York City</i>	183 LYC.
Isaac Hallam Jenney	<i>New York City</i>	206 D.
Elliot Grant Johnson	<i>Groton, Conn.</i>	26 S.
Frank Arthur Keller	<i>Fort Plain, N. Y.</i>	72 W.
Harry Howell Kennedy	<i>Syracuse, N. Y.</i>	1010 Chapel st.
Henry Martindale Kidd	<i>Albany, N. Y.</i>	1018 Chapel st.
William Lloyd Kitchel	<i>New Haven, Conn.</i>	169 F.
Paul Klimpke	<i>Hartford, Conn.</i>	101 N.
George Gray Knowles	<i>Wilmington, Del.</i>	278 L.
James Hall Mason Knox, Jr.	<i>Easton, Pa.</i>	266 L.
Sidney Locock Lasell	<i>Orange, N. J.</i>	57 S. M.
Philip Reynolds Leavenworth	<i>Castleton, Vt.</i>	4 S.
Arthur Franklin Lewis	<i>Bozeman, Mont.</i>	59 Lake pl.
Harry Long	<i>Wilkes-Barre, Pa.</i>	139 F.
John Frederick Lorange	<i>New Haven, Conn.</i>	695 Chapel st.
Daniel Lord, 3d	<i>New York City</i>	270 Crown st.
Arthur Lovell	<i>Plainfield, N. J.</i>	165 F.
Harry Winters Luce	<i>Scranton, Pa.</i>	16 S.
Harry Stoddard Lyman	<i>Salt Lake City, Utah</i>	47 S. M.
Cloyd North McAllister	<i>St. Joseph, Mo.</i>	90 N. M.
Thomas Lee McClung	<i>Knoxville, Tenn.</i>	258 L.
Henry Buehler McCormick	<i>Harrisburg, Pa.</i>	133 College st.
Daniel Edgar Manson	<i>New Haven, Conn.</i>	274 L.
Arthur Merwin Marsh	<i>Bridgeport, Conn.</i>	76 N. M.
Elliott Marshall	<i>Montclair, N. J.</i>	76 N. M.
Levi Winfield Marshall	<i>Middleboro, Mass.</i>	191 C.
Loren Pinckney Waldo Marvin	<i>Hartford, Conn.</i>	68 W.
Edward Hopkins Mason	<i>Chicago, Ill.</i>	176 F.
William Messick	<i>Memphis, Tenn.</i>	130 F.
Abraham Meyer	<i>Chicago, Ill.</i>	264 L.
Ernest Boyd Millard	<i>Rochester, N. Y.</i>	269 L.
George Redington Montgomery	<i>New Haven, Conn.</i>	34 Trumbull st.
Francis Miner Moody	<i>New Haven, Conn.</i>	38 S. M.
James Albert Moore	<i>Norwich, N. Y.</i>	37 S. M.
Stanford Newel Morison	<i>Minneapolis, Minn.</i>	179 LYC.
Charles Dennis Morris	<i>Wallingford, Conn.</i>	113 N.



Robert Wallace Morris	Wallingford, Conn.	55 S. M.
Edward Buffett Mowbray	Bay Shore, N. Y.	89 N. M.
Thornwell Mullally	Pendleton, S. C.	48 S. M.
Marshall Paul Noyes	Evanston, Ill.	107 York st.
David Raphael O'Donnell	New Haven, Conn.	30 Ward st.
Allen Cromwell Orrick	St. Louis, Mo.	142 F.
Frank Burton Otis	Meriden, Conn.	Meriden
Robert Allan Paddock	St. Louis, Mo.	48 S. M.
Alfred Barnes Palmer	Bridgeport, Conn.	250 L.
Lewis Rathbone Parker	Albany, N. Y.	236 D.
Edward Walker Pease	Cleveland, O.	I S.
William Grymes Pettus	St. Louis, Mo.	121 Elm st.
Samuel Fowler Phelps	Whitehall, Ky.	1079 Chapel st.
John Inglee Phinney	Machias, Me.	99 N.
Charles Peabody Pierce	Auburn, Mass.	188 C.
Horace Tracy Pitkin	Philadelphia, Pa.	247 L.
Ralph Carr Powell	Cincinnati, O.	147 F.
Frank Julian Price	Brooklyn, N. Y.	214 D.
Henry Riggs Rathbone	Albany, N. Y.	1018 Chapel st.
Matthew Ambrose Reynolds	New Haven, Conn.	550 Whalley av.
Paul Stanley Richards	Philadelphia, Pa.	205 D.
Erman Jesse Ridgway	Galion, O.	74 Howe st.
Isaac Woodbridge Riley	New Haven, Conn.	182 LYC.
William Goodsell Rockefeller	New York City	129 F.
William Nelson Runyon	Plainfield, N. J.	208 D.
George Emery Russell	Sarnia, Ontario, Canada	44 S. M.
Ernest Ryle	Paterson, N. J.	227 D.
Edward Stevens Sanborn	Kingston, N. H.	99 N.
Otto Adolph Schreiber	Hoboken, N. J.	227 D.
Charles Augustus Schumaker	Parish, N. Y.	192 C.
Charles Brown Sears	Brooklyn, N. Y.	166 F.
Frank Wright Seymour	Winsted, Conn.	I S.
Arthur Wynne Shaw	Paterson, N. J.	253 L.
Augustus Farnham Shaw	Wellsboro, Pa.	190 C.
Forrest Shepherd	Hartford, Conn.	214 D.
Emanuel Frank Snyder	Chicago, Ill.	264 L.
Elmer Haynes Spaulding	New London, Conn.	132 F.
Alfred Lawrence Spencer	New Haven, Conn.	212 D.
Edwin Obed Stanard, Jr.	St. Louis, Mo.	265 L.
Walter Ralph Steiner	Baltimore, Md.	169 F.
Eben Foster Stevens	New York City	253 L.
Herbert Anson Stocking	Wallingford, Conn.	113 N.
Alfred Harris Swayne	New York City	223 D.
Martin John Synnott	Montclair, N. J.	37 S. M.
Harlan Henry Taintor	Hartford, Conn.	144 F.

Harrison John Teller	<i>Central City, Col.</i>	65 N. M.
George Davis Terry	<i>Brooklyn, N. Y.</i>	212 D.
Alfred Clark Thompson	<i>Willimantic, Conn.</i>	4 S.
John Knox Tibbitts	<i>Troy, N. Y.</i>	22 S.
Howard Rockwell Townsend	<i>New York City</i>	215 D.
Frederick Deming Tucker	<i>Monson, Mass.</i>	71 N. M.
James Archibald Turnbull	<i>Hartford, Conn.</i>	1010 Chapel st.
Ralph Richard Upton	<i>Washington, D. C.</i>	20 S.
Warren Gookin Waterman	<i>Southport, Conn.</i>	149 F.
George Huntington Webster, Jr.	<i>Chicago, Ill.</i>	201 D.
Henry Goodwin Webster	<i>Brooklyn, N. Y.</i>	89 N. M.
Stuart Webster	<i>Chicago, Ill.</i>	201 D.
Albert Galusha Weeks	<i>New York City</i>	206 D.
Irving Comstock West	<i>Plainfield, N. Y.</i>	148 F.
James Everett Wheeler	<i>New Haven, Conn.</i>	278 L.
Junius Wheeler	<i>Chicago, Ill.</i>	22 Prince st.
Albert Lavine Whittaker	<i>Wallingford, Conn.</i>	52 Sylvan av.
Norman Clark Whittemore	<i>Rye, N. Y.</i>	22 S.
Abram Case Williams	<i>East Hartford, Conn.</i>	6 S.
Clarence Cicero Wilson	<i>Avon, Conn.</i>	26 S.
Frank Tobey Winslow	<i>Watertown, N. Y.</i>	65 N. M.
Charles Lawson Wooding	<i>Bristol, Conn.</i>	40 S. M.
Frederick Sanford Woodruff	<i>New York City</i>	266 L.
John Sitcher Woodruff	<i>New York City</i>	153 F.
Harry Woollen	<i>Indianapolis, Ind.</i>	246 L.
William Burnet Wright, Jr.	<i>New Britain, Conn.</i>	57 S. M.
Herbert James Wyckoff	<i>North Woodbury, Conn.</i>	59 S. M.
William Denison Young	<i>New York City</i>	226 D.

JUNIORS, 185

## SOPHOMORE CLASS

Franklin Jones Abbe	<i>Hartford, Conn.</i>	281 L.
Henry Crosby Allen	<i>Paterson, N. J.</i>	63 W.
John Weston Allen	<i>New Haven, Conn.</i>	3 S.
Lafon Allen	<i>Louisville, Ky.</i>	60 S. M.
Joseph Anderson, Jr.	<i>Waterbury, Conn.</i>	217 York st.
Christopher Lester Avery, Jr.	<i>Groton, Conn.</i>	116 N.
John Whitney Avery	<i>New Haven, Conn.</i>	120 High st.
James Addison Babbitt	<i>West Brattleboro', Vt.</i>	127 N.
Henry Selden Bacon	<i>Rochester, N. Y.</i>	27 High st.
Henry Burr Barnes, Jr.	<i>New York City</i>	1018 Chapel st.
Ellery Alphonso Bates	<i>Windham, Conn.</i>	43 S. M.

Henry Colwell Beadleston	<i>New York City</i>	1018 Chapel st.
George Palmer Beebe	<i>Norfolk, Conn.</i>	74 N. M.
William Reynolds Begg	<i>Hendersonville, N. C.</i>	94 N. M.
Ralph Birdsall	<i>Los Angeles, Cal.</i>	84 N. M.
Harry Llewellyn Bixby	<i>Long Beach, Cal.</i>	226 Crown st.
Clifford Douglass Bliss	<i>New York City</i>	159 York st.
William Bradford Boardman	<i>New Britain, Conn.</i>	110 N.
Gerald Mark Borden	<i>Chicago, Ill.</i>	265 Orange st.
Charles Wilder Bosworth	<i>Springfield, Mass.</i>	112 N.
Harry Howard Bottome	<i>New York City</i>	254 York st.
Howard Sidney Bowns	<i>Brooklyn, N. Y.</i>	170 York st.
Henry Dana Bradley	<i>New Haven, Conn.</i>	Main st. (Annex)
William Edwin Breckenridge	<i>Palmer, Mass.</i>	67 N. M.
Thomas Hamilton Breeze	<i>San Francisco, Cal.</i>	252 York st.
George Justus Briggs	<i>Danielsonville, Conn.</i>	1010 Chapel st.
Theodore Louis Bristol	<i>Ansonia, Conn.</i>	162 F.
Edward Harold Bronson	<i>Norwich, Conn.</i>	80 N. M.
Frank James Brown	<i>Warren, Pa.</i>	87 Olive st.
Lawrence Edward Brown	<i>New York City</i>	272 L.
Wendell Greene Brownson	<i>New Canaan, Conn.</i>	133 College st.
Cornelius Sanford Bull	<i>Terryville, Conn.</i>	260 L.
Ross Burchard	<i>South Norwalk, Conn.</i>	159 Elm st.
Louis Hood Burrell	<i>Freeport, Ill.</i>	84 N. M.
Frank Howard Button	<i>Peekskill, N. Y.</i>	29 High st.
Nehemiah Candee	<i>Easton, Conn.</i>	66 N. M.
Otho Granford Cartwright	<i>Belmont, N. Y.</i>	17 S.
Thomas Ives Chatfield	<i>Owego, N. Y.</i>	86 Broadway
Alvah Stone Chisholm	<i>Cleveland, O.</i>	64 High st.
Charles Walker Clark	<i>Butte City, Mont.</i>	1010 Chapel st.
John Darling Clarke	<i>Canterbury, Conn.</i>	96 N. M.
James Barclay Cooke	<i>Paterson, N. J.</i>	1076 Chapel st.
Joseph Platt Cooke	<i>Oakland, Cal.</i>	250 York st.
John Smith Cravens	<i>Kansas City, Mo.</i>	221 Crown st.
George Mason Creevey	<i>Brooklyn, N. Y.</i>	25 S.
Beecher Maynard Crouse	<i>Utica, N. Y.</i>	46 Elm st.
Elliot Stone Curtis	<i>Tidioute, Pa.</i>	101 N.
Howard Dorrance Day	<i>Providence, R. I.</i>	1157 Chapel st.
Robert Kerr Dickerman	<i>Foxboro, Mass.</i>	161 F.
Jonathan Boynton Dill	<i>Clearfield, Pa.</i>	1010 Chapel st.
Frank Edward Donnelly	<i>Oxford, N. Y.</i>	37 S. M.
Francis Oswald Dorsey	<i>Indianapolis, Ind.</i>	152 F.
Richard Edward Dunham	<i>Warren, Pa.</i>	64 Center st.
Henry Rutherford Dwight	<i>Brooklyn, N. Y.</i>	433 Temple st.
James Schneider Dwight	<i>Poughkeepsie, N. Y.</i>	113 Wall st.
Winthrop Edwards Dwight	<i>New Haven, Conn.</i>	126 College st.

William Walton Eccles	Auburn, N. Y.	65 W.
Charles Brown Eddy	New Britain, Conn.	112 N.
John Percival Edmison	Sioux Falls, S. Dak.	1150 Chapel st.
Charles Hull Ewing	South Dayton, N. Y.	373 Crown st.
Archer Linwood Faxon	Holbrook, Mass.	67 N. M.
Charles Jarvis Fay	Hartford, Conn.	25 S.
Irving Bruce Ferguson	New York City	1010 Chapel st.
Henry Horlbeck Ficken	Charleston, S. C.	56 S. M.
John Howe Field	Rutland, Vt.	161 F.
George Mark Foos	Springfield, O.	1010 Chapel st.
Arthur Benjamin Fox	Morristown, N. J.	200 York st.
James Charles Fox	Clinton, Conn.	111 N.
Edson Fessenden Gallaudet	Washington, D. C.	282 L.
Thomas Augustus Gardiner	Brooklyn, N. Y.	159 York st.
Frank Edwin Gatchel	Louisville, Ky.	60 S. M.
Rufus Macqueen Gibbs	Baltimore, Md.	159 York st.
Giles Frederic Goodenough	Winchester, Conn.	17 S.
James Edward Grafton	Norwich, Conn.	141 Temple st.
Arthur Lawrence Greer	New York City	254 Crown st.
William Henry Hackett	New Haven, Conn.	143 West st.
Donald Cameron Haldeman	Harrisburg, Pa.	1010 Chapel st.
Montgomery Hare	New York City	254 Crown st.
Clarence Clifford Harmstad	Jersey City, N. J.	170 York st.
Samuel Brainard Hartwell	Oil City, Pa.	254 York st.
Allyn Fitch Harvey	Cleveland, O.	64 W.
Frank William Hastings, Jr.	Bradford, Pa.	54 Garden st.
Logan Hay	Springfield, Ill.	1010 Chapel st.
Theodore Woolsey Heermance	New Haven, Conn.	250 Church st.
Charles Ralph Hickox, Jr.	New York City	254 York st.
William McKimmie Higgins	Thompsonville, Conn.	93 N. M.
Frederic Asbury Hill	Norwalk, Conn.	101 W.
James Norman Hill	St. Paul, Minn.	1076 Chapel st.
John Payson Hobbie	Cazenovia, N. Y.	113 Wall st.
Ben Hodge	St. Paul, Minn.	9 Library st.
Richard Thayer Holbrook	New York City	162 F.
Robert Kellogg Howe	South Windsor, Conn.	81 N. M.
John LeRoy Hurlbert	Forestville, N. Y.	80 N. M.
Shubael Cady Hutchins	Danielsonville, Conn.	96 N. M.
Sherwood Bissell Ives	New York City	254 Crown st.
Harry Benjamin Jepson	New Haven, Conn.	30 Grove st.
Lewis Fuller Johnson	Bangor, Me.	127 N.
Alfred Henry Jones	St. Louis, Mo.	114 High st.
Charles Davies Jones	Cincinnati, O.	46 Elm st.
Riverda Harding Jordan	St. Joseph, Mo.	90 N. M.
Homer Thrall Joy	Newark, N. J.	1010 Chapel st.

Walter Parmelee Judson	New Haven, Conn.	204 Winthrop av.
Charles David Kyle	Cayuga, N. Y.	126 N.
Adrian VanSinderen Lambert	New York City	261 L.
Edwin Ruthven Lamson	Montclair, N. J.	125 N.
William Judson Lamson	Montclair, N. J.	125 N.
Irwin Boyle Laughlin	Pittsburgh, Pa.	1076 Chapel st.
Burton Emerson Leavitt	New Haven, Conn.	48 Gill st.
James Patrick Linahan	New Haven, Conn.	271 Ferry st.
Frederick Merwin Lloyd	New Haven, Conn.	26 Dwight pl.
Arthur Power Lord	New York City	159 F.
Robert Oliver Lowry	Erie, Pa.	232 D.
Irving Phillips Lyon	Hartford, Conn.	260 L.
William James McKenna	Westborough, Mass.	77 N. M.
Stuart McKnight	Louisville, Ky.	159 Elm st.
William Maffitt	St. Louis, Mo.	142 F.
Arthur James Martin	Deckertown, N. J.	119 N.
George Greene Martin	St. Louis, Mo.	114 High st.
Walter Rumsey Marvin	Pittsburgh, Pa.	1010 Chapel st.
Alfred Kindred Merritt	Brainerd, Minn.	41 High st.
Guy Bryan Miller	New Rochelle, N. Y.	163 York st.
Winlock William Miller	Olympia, Wash.	252 York st.
Charles William Mills	Denver, Col.	231 York st.
George Edward Mills	Norwood, O.	1173 Chapel st.
Franklin Arthur Moore	Detroit, Mich.	226 Crown st.
John Stanley Moore	Syracuse, N. Y.	1018 Chapel st.
John Hill Morgan	Brooklyn, N. Y.	227 Crown st.
Albert Hooker Morse	Plantsville, Conn.	119 N.
William Henry Murphy	Southville, Mass.	77 N. M.
Alfred Goldstein Nadler	New Haven, Conn.	122 Olive st.
Emerson Root Newell	Bristol, Conn.	110 N.
William Lewis Newton	Brooklyn, N. Y.	24 S.
William Allan Osborn	Cleveland, O.	64 High st.
Terry Parker	Atchison, Kan.	79 N. M.
William White Wilson Parker	Washington, D. C.	47 S. M.
Francis Parsons	Hartford, Conn.	282 L.
George Leete Peck	Jamaica, N. Y.	West Haven
Alton William Peirce	Athol Center, Mass.	78 N. M.
Albert Wells Pettibone, Jr.	LaCrosse, Wisc.	217 York st.
Charles Macauley Pope	St. Louis, Mo.	1090 Chapel st.
Albert Hutchinson Putney	Newton Highlands, Mass.	34 S. M.
Harry Campbell Quintard	Sound Beach, Conn.	78 N. M.
Gerald Laurence Rathbone	Albany, N. Y.	68 N. M.
George Howard Rice	Springfield, Mass.	98 N.
Alphonse George deRiesthal	Brooklyn, N. Y.	44 Elm st.
John Trumbull Robinson	Hartford, Conn.	1018 Chapel st.

Joseph Roby	<i>Rochester, N. Y.</i>	68 N. M.
Derby Rogers	<i>New York City</i>	128 N.
Robert Edwin Rowley	<i>Williamsport, Pa.</i>	1010 Chapel st.
Louis Barcroft Runk	<i>Philadelphia, Pa.</i>	297 Crown st.
Herbert Irving Sackett	<i>New Haven, Conn.</i>	24 College st.
William Clement Scott	<i>Newburgh, N. Y.</i>	159 Elm st.
Samuel Scoville, Jr.	<i>Stamford, Conn.</i>	109 N.
Hubert Merrill Sedgwick	<i>Bondsville, Mass.</i>	87 N. M.
Lucien Sharpe, Jr.	<i>Providence, R. I.</i>	121 Elm st.
Albest Judson Shaw	<i>Royalston, Mass.</i>	24 S.
George Theron Slade	<i>New York City</i>	1076 Chapel st.
William Warren Smith	<i>Buffalo, N. Y.</i>	261 L.
George Brown Spalding	<i>Syracuse, N. Y.</i>	126 N.
Samuel Reid Spencer	<i>Suffield, Conn.</i>	347 York st.
Henry Crosby Stetson	<i>Bangor, Me.</i>	311 York st.
Robbins Battell Stoeckel	<i>New Haven, Conn.</i>	209 York st.
Wendell Melville Strong	<i>Montclair, N. J.</i>	145 College st.
Carlyle Edgar Sutphen, Jr.	<i>Newark, N. J.</i>	1010 Chapel st.
Noah Haynes Swayne, 2d	<i>New York City</i>	232 D.
Frederic Behm Taintor	<i>New York City</i>	159 Elm st.
Moses Taylor	<i>New York City</i>	231 D.
William Stoutenborough Terriber	<i>Paterson, N. J.</i>	63 W.
John Booth Thomas	<i>Rockville, Conn.</i>	66 N. M.
Herbert Gordon Thomson	<i>New York City</i>	128 N.
William Preston Thornton	<i>Lexington, Ky.</i>	56 S. M.
Charles Holmes Thrall	<i>Rockville, Conn.</i>	95 N. M.
Dexter Edgar Tilley	<i>W. Springfield, Mass.</i>	103 Liberty st.
Horace Gates Torbert	<i>Dubuque, Iowa</i>	217 York st.
Edward Holman Tracy	<i>Topeka, Kan.</i>	3 S.
Robert Storer Tracy	<i>Plainfield, N. J.</i>	239 D.
Charles Gallaudet Trumbull	<i>Philadelphia, Pa.</i>	1010 Chapel st.
Corydon Curtiss Tyler	<i>New York City</i>	1010 Chapel st.
Harry Selden Vaile	<i>Oak Park, Ill.</i>	41 High st.
William Henry Vanderbilt	<i>New York City</i>	231 D.
Isidore Wachsman	<i>Albany, N. Y.</i>	407 Temple st.
Robert Buchanan Wade	<i>St. Louis, Mo.</i>	64 High st.
Richard Charles Wells Wadsworth	<i>Staten Island, N. Y.</i>	64 High st.
Alexander Hamilton Wallis	<i>East Orange, N. J.</i>	1018 Chapel st.
Pere Gustav Wallmo	<i>Portland, Conn.</i>	99 Wall st.
John Dorrance Warnock	<i>Geneva, N. Y.</i>	95 N. M.
Lemuel Aikin Welles	<i>Newington, Conn.</i>	93 N. M.
Ernest Hubbard Wells	<i>Louisville, Ky.</i>	51 Prospect st.
Carl Westerfeld	<i>San Francisco, Cal.</i>	231 York st.
Arthur Leslie Wheeler	<i>Hartford, Conn.</i>	94 N. M.
Webster Wheelock	<i>St. Paul, Minn.</i>	242 York st.

Albert Beebe White	<i>Holbrook, Mass.</i>	199 York st.
Ellsworth Daggett Whiting	<i>Aurora, Ill.</i>	364 George st.
John Harvey Wigginton	<i>Bladensburg, Md.</i>	12 Edgewood av.
Walter Dwight Wilcox	<i>Washington, D. C.</i>	250 York st.
Frank Curtis Wilder	<i>New York City</i>	21 Whalley av.
Edward Mason Williams	<i>Cleveland, O.</i>	64 W.
Morris Woodruff, Jr.	<i>New York City</i>	114 College st.
Alfred Charles Woolner	<i>Peoria, Ill.</i>	12 Whalley av.
Wilbur Seaman Wright	<i>Greenwich, Conn.</i>	79 N. M.
Frederick Washburn Yates	<i>Plainfield, N. J.</i>	239 D.

SOPHOMORES, 201

## FRESHMAN CLASS

Samuel Stokes Allen	<i>Philadelphia, Pa.</i>	56 Whalley av.
Thomas Shaw Arbuthnot	<i>Pittsburgh, Pa.</i>	168 York st.
Frederick Searles Armstrong	<i>Brooklyn, N. Y.</i>	32 Park st.
Raymond Holbrook Arnot	<i>Exeter, N. H.</i>	14 S.
Samuel Sloan Auchincloss	<i>New York City</i>	116 W.
William Bacon Bailey	<i>Springfield, Mass.</i>	22 Lynwood st.
Edward Chauncey Baldwin	<i>West Cornwall, Conn.</i>	67 Grove st.
Harry Samuel Bandler	<i>Owego, N. Y.</i>	146 F.
Alexis Painter Bartlett	<i>Farmington, Conn.</i>	1187 Chapel st.
William Spencer Beard	<i>South Killingly, Conn.</i>	31 S.
André Alden Beaumont	<i>San Antonio, Texas</i>	157 York st.
Martin Luther Beeler	<i>Mossy Creek, Tenn.</i>	1 TR.
Albert Anson Bigelow	<i>St. Paul, Minn.</i>	9 Library st.
Charles Benjamin Bishop, Jr.	<i>Litchfield, Conn.</i>	30 S.
Clinton Spencer Bissell	<i>Litchfield, Conn.</i>	29 S.
Samuel Burr Sherwood Bissell	<i>New York City</i>	1138 Chapel st.
Murray Boocock	<i>Brooklyn, N. Y.</i>	227 Crown st.
Edward Richmond Bosley	<i>Lakeville, N. Y.</i>	187 C.
Frederick Merrell Boyer	<i>Watertown, N. Y.</i>	364 George st.
Albert Simmons Briggs	<i>North Dighton, Mass.</i>	30 Academy st.
Alphonso Bickford Brown	<i>Dover, N. H.</i>	31 S.
James Crosby Brown	<i>New York City</i>	121 York st.
James Elwin Brown	<i>Pittsburgh, Pa.</i>	337 Orange st.
Albert Henry Buck	<i>Wilmington, Del.</i>	7 Library st.
Charles Herbert Buell	<i>Brooklyn, N. Y.</i>	78 Whalley av.
Frank Scott Bunnell	<i>Stratford, Conn.</i>	146 College st.
Edward Frederick Burke	<i>Orange, N. J.</i>	1142 Chapel st.
Calvin Burr	<i>Auburn, N. Y.</i>	132 Wall st.

Harold Edgar Buttrick	<i>Brooklyn, N. Y.</i>	24 Dow st.
Walter Reid Callender	<i>Providence, R. I.</i>	155 Elm st.
Ira Merrill Carley	<i>New Haven, Conn.</i>	133 College st.
George Bowen Case	<i>Kansas City, Mo.</i>	172 F.
Patrick Joseph Cassidy	<i>Norwich, Conn.</i>	439 George st.
John Frank Chace	<i>Hudson, N. Y.</i>	133 College st.
John Payson Chamberlain	<i>Seneca Falls, N. Y.</i>	251 L.
Julian Ingersoll Chamberlain	<i>New York City</i>	251 L.
Frederick Shepard Chapman	<i>Saybrook, Conn.</i>	82 N. M.
Frank Herbert Chase	<i>Haverhill, Mass.</i>	133 College st.
William Henry Clark, Jr.	<i>Saginaw, Mich.</i>	143 York st.
Ward Robinson Clarke	<i>Candor, N. Y.</i>	318 Elm st.
Thomas Cochran, Jr.	<i>St. Paul, Minn.</i>	126 High st.
Ezra Hoyt Connell	<i>Scranton, Pa.</i>	126 Wall st.
Theodore Edwin Connell	<i>Scranton, Pa.</i>	126 Wall st.
Charles Edmund Coxe	<i>New York City</i>	128 High st.
William Clayton Crafts	<i>Austin, Ill.</i>	283 Crown st.
Erastus Milo Cravath, Jr.	<i>Nashville, Tenn.</i>	1079 Chapel st.
Charles Frederic Crawford	<i>Chicago, Ill.</i>	155 Elm st.
George Marshall Crawford	<i>Topeka, Kan.</i>	226 York st.
Romaine Hard Crosby	<i>Brooklyn, N. Y.</i>	233 York st.
Ferdinand Swift Crosley	<i>Springfield, Mass.</i>	109 Elm st.
Walter Barnes Cruttenden	<i>East River, Conn.</i>	15 Vernon st.
Clinton James Curtis	<i>West Winsted, Conn.</i>	154 F.
Thomas Frederick Davies, Jr.	<i>Detroit, Mich.</i>	297 Crown st.
Henry Shepherd Dawson, Jr.	<i>New Haven, Conn.</i>	136 College st.
Edward Marvin Day	<i>Colchester, Conn.</i>	157 York st.
Austin Phelps Dean	<i>Exeter, N. H.</i>	41 S. M.
Charles I. DeBevoise	<i>Brooklyn, N. Y.</i>	297 Crown st.
Allen Ross Defendorf	<i>Fairport, N. Y.</i>	62 S. M.
Frederick Marcy DeForest	<i>Bridgeport, Conn.</i>	297 George st.
Arthur Gillespie Dickson	<i>Philadelphia, Pa.</i>	1142 Chapel st.
Loten Abijah Dinsmoor	<i>Warren, Pa.</i>	1079 Chapel st.
Alexander Samuel Diven	<i>Elmira, N. Y.</i>	248 L.
Frank Phelps Dodge	<i>New York City</i>	1142 Chapel st.
Bayard Dominick, Jr.	<i>New York City</i>	217 York st.
George Francis Dominick, Jr.	<i>New York City</i>	215 Crown st.
George Elias Dorland	<i>Buffalo, N. Y.</i>	1 Whalley av.
Theodore Douglas	<i>Washington, D. C.</i>	107 N.
Winthrop Hillyer Duncan	<i>Lowell, Mass.</i>	584 Chapel st.
Casselberry Dunkerson	<i>Evansville, Ind.</i>	164 F.
Harry Westbrook Dunning	<i>Jamaica Plain, Mass.</i>	90 Dwight st.
Frederick Dwight	<i>Brooklyn, N. Y.</i>	433 Temple st.
George Francis Eaton	<i>New Haven, Conn.</i>	70 Sachem st.
Theodore Eaton	<i>Wakefield, Mass.</i>	15 S.



Thomas Long Ellis	Portland, Me.	18 s.
Arthur Wells Elting	Upper Red Hook, N. Y.	57 Prospect st.
Richard Matthew English	New Haven, Conn.	226 Greenwich av.
Henry Lane Eno	Saugatuck, Conn.	250 Crown st.
John Mackintosh Ferguson	Pittsburgh, Pa.	7 Library st.
Albert Nelson Cheney Fowler	Glens Falls, N. Y.	231 York st.
George Howard Fox	New York City	14 Whalley av.
Lewis Fox Frissell	Spuyten Duyvil, N. Y.	15 s.
Clinton Hart Furbish	Spencerport, N. Y.	111 N.
Edward Joseph Garvan	East Hartford, Conn.	1187 Chapel st.
Charles Henry George	Milwaukee, Wisc.	18 Trumbull st.
Merwin Jephtha Gibbons	Fair Haven, Conn.	205 Lloyd st.
Louis Packard Gillespie	New York City	439 George st.
Ransom Fay Gillis	Detroit, Mich.	138 F.
Zeeb Prescott Gilman	Jersey City, N. J.	236 Crown st.
Thomas Warrington Gosling	Cincinnati, O.	14 s.
John Henry Goss	Waterbury, Conn.	65 Grove st.
Allen Greeley	Jacksonville, Fla.	138 F.
Gervase Green	St. Helens, England	97 N.
Nathan Williams Green	Worcester, Mass.	49 S. M.
Warren W. Guthrie, Jr.	Atchison, Kan.	24 Dow st.
Charles Henry Hall, Jr.	Brooklyn, N. Y.	161 York st.
John Loomer Hall	Williamantic, Conn.	283 Crown st.
Frank Manson Haradon	Marshalltown, Iowa	113 York st.
Charles Willing Hare	Philadelphia, Pa.	242 York st.
Meredith Hare	New York City	203 York st.
Amos Thompson Harrington	Lyons, N. Y.	143 F.
Frank John Harris	New York City	254 York st.
Henry Wilson Harris	East Orange, N. J.	45 S. M.
James Anderson Hawes	New York City	223 York st.
Fidelio Sharp Henry	Chicago, Ill.	109 High st.
Everett Gleason Hill	Madison, Conn.	82 N. M.
George Cooley Hixon	La Crosse, Wisc.	109 Elm st.
Ralph Winthrop Holmes	West Winsted, Conn.	158 F.
Hamilton Bowen Holt	Spuyten Duyvil, N. Y.	14 Whalley av.
Edwin Olaf Holter	Helena, Mont.	170 York st.
Walter D. Hood	Auburn, N. Y.	62 S. M.
Alfred Fraser Howe	Birmingham, Conn.	159 Orange st.
Lloyd Mortimer Howell	W. Hampton Center, N. Y.	131 Howe st.
John Howland	New York City	259 L.
Alfred Burdette Hughes	New Haven, Conn.	130 Forbes av.
Charles Nelson Hulburt	Norwich, Conn.	439 George st.
Ralph Squire Hull	Scranton, Pa.	556 Chapel st.
Caleb Samuel Jackson	Allegheny, Pa.	1010 Chapel st.
Robert Campbell James	Baltimore, Md.	259 L.

James Sinclair Jenkins	<i>Stamford, Conn.</i>	45 S. M.
Nathan Hall Jewett	<i>Buffalo, N. Y.</i>	223 York st.
Lawrence Bullard Jones	<i>Wilkes-Barre, Pa.</i>	116 High st.
Frederick Love Keays	<i>North Berwick, Me.</i>	1150 Chapel st.
Sarkis Couzu Kebabian	<i>Rodosto, Turkey</i>	7 Library st.
Herbert Humphrey Kellogg	<i>Carthage, Mo.</i>	318 Elm st.
Charles Garfield King	<i>Chicago, Ill.</i>	126 Wall st.
Rufus King, Jr.	<i>Cincinnati, O.</i>	109 Wall st.
Troy Sylvanus Kinney	<i>Chicago, Ill.</i>	231 York st.
Edward Kirkland	<i>Utica, N. Y.</i>	170 York st.
Ernest Knaebel	<i>Santa Fé, N. M.</i>	105 Bristol st.
Clarence Hinman Lake	<i>New Haven, Conn.</i>	137 College st.
George Bigelow Bartlett Lamb	<i>New Haven, Conn.</i>	584 Chapel st.
Howard Asa Lamprey	<i>Laconia, N. H.</i>	404 Crown st.
John Edward Lane	<i>North Hadley, Mass.</i>	242 York st.
Edward Herman Lay	<i>Fullton, Ill.</i>	125 Dwight st.
William Henry Leete	<i>Thompsonville, Conn.</i>	2 S.
Albert William Lindeke	<i>St. Paul, Minn.</i>	114 High st.
Charles Pleasants Lineaweaver	<i>Pottsville, Pa.</i>	117 Whitney av.
Raymond Lloyd	<i>Cincinnati, O.</i>	237 D.
Frederick Ayres Lockwood	<i>Norwalk, Conn.</i>	223 York st.
Ralph Longenecker	<i>Bedford, Pa.</i>	120 High st.
Samuel Russell Longenecker	<i>Bedford, Pa.</i>	120 High st.
Harry Frank Loomis	<i>New York City</i>	107 Wall st.
Ralph Reed Lounsbury	<i>Hartford, Conn.</i>	29 S.
Walter Whitney Lounsbury	<i>New Haven, Conn.</i>	22 Lincoln st.
Charles Noyes Loveland	<i>Wilkes-Barre, Pa.</i>	114 High st.
Charles Mathew Ludwig	<i>Winona, Minn.</i>	29 High st.
Dean Belden Lyman	<i>Salt Lake City, Utah</i>	1079 Chapel st.
Frederick Henry Lynch	<i>Peace Dale, R. I.</i>	119 Park st.
George Day McBirney	<i>Chicago, Ill.</i>	159 Elm st.
William Wickliffe McCandless	<i>Pittsburgh, Pa.</i>	55 Prospect st.
Edward Hill McCray	<i>Rockville, Conn.</i>	81 N. M.
Hall Park McCullough	<i>Bennington, Vt.</i>	223 York st.
Frank Elmer McDuffee	<i>Bradford, Vt.</i>	242 York st.
Buell McKeever	<i>Chicago, Ill.</i>	165 York st.
Winthrop McKim	<i>Navesink, N. J.</i>	38 Elm st.
Kirk Crawford McKinney	<i>Pueblo, Col.</i>	279 Crown st.
Philip Hamilton McMillan	<i>Detroit, Mich.</i>	130 Wall st.
John Albert Mathewman	<i>New Haven, Conn.</i>	480 Winthrop av.
Henry Giles Miller, Jr.	<i>Chicago, Ill.</i>	157 York st.
Pendleton Miller	<i>Olympia, Wash.</i>	252 York st.
Arthur Mitchell, Jr.	<i>New York City</i>	233 York st.
William Russell Moorhouse	<i>Chicago, Ill.</i>	26 High st.
George Denison Morgan, Jr.	<i>New York City</i>	121 York st.

Joseph Elias Morgan	<i>Essex, Conn.</i>	97 N.
John Edward Morley	<i>Saginaw, Mich.</i>	143 York st.
Henry Perkins Moseley	<i>New Haven, Conn.</i>	31 Wall st.
Oliver Clayton Mosman	<i>St. Joseph, Mo.</i>	1150 Chapel st.
Walter Fletcher Murray	<i>Plainfield, N. J.</i>	311 York st.
Robert Hubbard Nelson	<i>Bridgeport, Conn.</i>	371 Crown st.
Robert Hastings Nichols	<i>Binghamton, N. Y.</i>	233 York st.
Alvin Probasco Nipgen	<i>Chillicothe, O.</i>	119 Park st.
Cyrus Clarke Nolan	<i>Chicago, Ill.</i>	40 Elm st.
Henry Shore Noon	<i>Gloucester, Mass.</i>	337 Crown st.
Daniel O'Day, Jr.	<i>Buffalo, N. Y.</i>	231 York st.
George William Olmsted	<i>Buffalo, N. Y.</i>	182 LYC.
Samuel Lowry Orr	<i>Evansville, Ind.</i>	164 F.
Charles Grosvenor Osgood, Jr.	<i>Wellsborough, Pa.</i>	190 C.
Ralph Delahay Paine	<i>St. Augustine, Fla.</i>	289 York st.
Carl Douglas Perkins	<i>St. Johnsbury, Vt.</i>	107 Edwards st.
Frederick Curtis Perkins	<i>Sharon, Pa.</i>	159 Elm st.
Henry Bishop Perkins, Jr.	<i>Warren, O.</i>	159 Elm st.
Frederick Torrel Persons	<i>Sandisfield, Mass.</i>	67 Whalley av.
Ansel Phelps	<i>New York City</i>	248 L.
Isaac King Phelps	<i>Thompsonville, Conn.</i>	2 S.
Decius Latimer Pierson	<i>Hartford, Conn.</i>	32 S.
Frank Lyon Polk	<i>New York City</i>	9 Library st.
Alfred Maccauley Pope	<i>St. Louis, Mo.</i>	1090 Chapel st.
Alonzo Potter	<i>New York City</i>	121 York st.
James Tracy Potter	<i>North Adams, Mass.</i>	143 F.
Warwick James Price	<i>Cleveland, O.</i>	1079 Chapel st.
Edward Franklin Raymond	<i>Chicago, Ill.</i>	26 High st.
William Miner Raymond	<i>Chicago, Ill.</i>	107 York st.
Edward John Redington	<i>Syracuse, N. Y.</i>	34 Trumbull st.
Edward Bliss Reed	<i>Holyoke, Mass.</i>	192 York st.
Harry Simeon Richardson	<i>Chicago, Ill.</i>	236 Crown st.
George Chalmers Richmond	<i>Easthampton, Mass.</i>	97 Olive st.
Ernest Lauren Robinson	<i>Meriden, Conn.</i>	Meriden
Howard Roosa	<i>Rosendale, N. Y.</i>	135 College st.
Charles Philemon Rowley	<i>Poughkeepsie, N. Y.</i>	227 Crown st.
Wilkins Rustin	<i>Omaha, Nebr.</i>	114 High st.
Albert Thorpe Ryan	<i>Washington, D. C.</i>	226 York st.
George Hope Ryder	<i>Plainfield, N. J.</i>	43 Whalley av.
William Henry Sallmon	<i>London, Canada</i>	18 Trumbull st.
Walter Edward Sanders	<i>Auburndale, Mass.</i>	49 S. M.
Charles William Saunders	<i>Penn Yan, N. Y.</i>	18 S.
James Cowan Sawyer	<i>Dover, N. H.</i>	158 F.
Origen Storrs Seymour, Jr.	<i>Bridgeport, Conn.</i>	219 York st.
Joseph Earl Sheffield	<i>Attleboro, Mass.</i>	107 Wall st.

George Montgomery Sicard	Utica, N. Y.	226 York st.
Harry Shevelson Silverstein	Denver, Col.	23 s.
Eugene Wilson Skelton	Brooklyn, N. Y.	117 Elm st.
Charles Rives Skinker	St. Louis, Mo.	1079 Chapel st.
Charles Albert Smith	Bridgeport, Conn.	137 College st.
Howard Franklin Smith	Hartford, Conn.	30 s.
Leonard Bacon Smith	New York City	27 High st.
Letchworth Smith	Auburn, N. Y.	154 F.
Rest Fenner Smith, Jr.	East Orange, N. J.	117 Sherman av.
Charles James Sniffen	Stratford, Conn.	Stratford
John Beach Solley, Jr.	Fairfield, Conn.	64 s. m.
Carl Frederick Stahl	New Haven, Conn.	556 Chapel st.
Lee Kingsley Stewart	Joliet, Ill.	138 Court st.
Walter Eugene Stewart, Jr.	Plainfield, N. J.	64 s. m.
Leland Stanford Stillman	Brooklyn, N. Y.	126 High st.
Alfred Worthington Stone	New York City	134 College st.
Edward Merrill Stothers	Port Richmond, N. Y.	57 Prospect st.
Harry Lockman Street	Chicago, Ill.	65 Grove st.
Andrew Sandford Taylor	South Orange, N. J.	41 s. m.
James Henry Taylor	Charleston, S. C.	67 Howe st.
Edward Russell Thomas	New York City	168 York st.
William Edward Thoms	Waterbury, Conn.	37 Lynwood st.
William Josiah Tilson	Clear Branch, Tenn.	1 TR.
William Todd	Calais, Me.	121 Elm st.
Ralph Tousey	Brooklyn, N. Y.	192 York st.
George Marcy Townsend	Hartford, Conn.	s. 32
James Rutherford Trowbridge	Chicago, Ill.	157 York st.
Henry Brownell Tucker	Troy, N. Y.	226 York st.
Willard Gibbs VanName	New Haven, Conn.	121 High st.
George Finch VanSlyck	New York City	43 Whalley av.
Harry Stephen Vorhis	Spencer, N. Y.	7 E.
Isaac VanAlen Wait	Kinderhook, N. Y.	167 F.
William Stuart Walcott, Jr.	New York Mills, N. Y.	172 F.
James Alexander Waller	Chicago, Ill.	231 York st.
Milton Jones Warner	Salisbury, Conn.	67 Howe st.
Walter Abbott Waterman	Griswold, Conn.	113 York st.
Frederic Jabez Waters	Cincinnati, O.	23 s.
Harry Little Welch	New Haven, Conn.	59 Wall st.
Milton Ferdinand Westheimer	St. Joseph, Mo.	1150 Chapel st.
John Walker Wheeler	Bridgeport, Conn.	297 George st.
Shelton King Wheeler	Chattanooga, Tenn.	287 York st.
Harry Payne Whitney	New York City	203 York st.
Egerton Ryerson Williams, Jr.	New York City	203 York st.
James Dawes Williams	North Adams, Mass.	9 Trumbull st.
Nathaniel Niles Wilson	San Francisco, Cal.	159 Elm st.

Thomas Melvill Womersley	<i>Greenfield, Mass.</i>	22 College st.
Theophilus Gay Wood	<i>Westborough, Mass.</i>	22 College st.
William Wallace Woodruff	<i>Knoxville, Tenn.</i>	361 Elm st.
Charles Francis Word	<i>Helena, Mont.</i>	170 York st.
Richard Hardesty Worthington	<i>Baltimore, Md.</i>	231 York st.
William Runk Wright	<i>New York City</i>	270 Crown st.

FRESHMEN, 259

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SUMMARY

SENIORS	.	.	.	.	.	.	187
JUNIORS	.	.	.	.	.	.	185
SOPHOMORES	.	.	.	.	.	.	201
FRESHMEN	.	.	.	.	.	.	259
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# SHEFFIELD SCIENTIFIC SCHOOL

## GRADUATE STUDENTS

Arthur Chambers Alexander, PH.B. } Yale University, 1889	Honolulu, H. I.	57 N. S. H.
George L. Amerman, B.A. } Yale University, 1890	New Haven, Conn.	137 Wall st.
Frederic Elijah Beach, PH.B. } Yale University, 1883	New Haven, Conn.	44 Lyon st.
William Fances Breeze, PH.B. } Yale University, 1889	San Francisco, Cal.	New Haven House
Philip Embury Browning, B.A. } Yale University, 1889	Brooklyn, N. Y.	106 High st.
William Harper Butler, PH.B. } Yale University, 1890	Olean, N. Y.	248 York st.
Perry Moore Caldwell, PH.B. } Yale University, 1889	Wheeling, W. Va.	36 Elm st.
Ralph Roger Clapp, PH.B. } Yale University, 1890	Pawtucket, R. I.	88 Wall st.
Edwin Kirk Dillingham, PH.B. } Yale University, 1889	New Orleans, La.	90 Wall st.
Harootune Enfiajian, PH.B. } Yale University, 1889	Harpoot, Turkey	20 Insurance B'd'g.
Oliver Cummings Farrington, M.S. } Maine State College, 1888	Portland, Me.	78 B.
Irving Fisher, B.A. } Yale University, 1888	New Haven, Conn.	119 Park st.
Matthew Griswold, Jr., PH.B. } Yale University, 1888	Erie, Pa.	A.
Elliott Proctor Joslin, B.A. } Yale University, 1890	Oxford, Mass.	1010 Chapel st.
Harvey Merrill Lawson, PH.B. } Yale University, 1890	Union, Conn.	56 N. S. H.
Thomas George Lee, M.D. } University of Pa., 1886	New Haven, Conn.	373 Crown st.
Frank Dodge Leffingwell, B.A. } Yale University, 1887	Montclair, N. J.	A.
Edwin Hoyt Lockwood, PH.B. } Yale University, 1888	New Canaan, Conn.	57 N. S. H.
William Ellison Lockwood, M.D. } Yale University, 1885	New Haven, Conn.	32 Pearl st.
Boynton Wells McFarland, PH.B. } Yale University, 1889	New Haven, Conn.	306 Lawrence st.

Frank Sherman Meara, B.A. } Yale University, 1890	Cottage City, Mass.	70 N. M.
Edwin Morrison, PH.B. } Yale University, 1888	Cincinnati, O.	A.
Frank Russell Rich, PH.B. } Yale University, 1890	New Haven, Conn.	A.
Leonard Cutler Sanford, B.A. } Yale University, 1890	New Haven, Conn.	216 Crown st.
Ernest Ellsworth Smith, PH.B. } Yale University, 1888	New Haven, Conn.	1018 Chapel st.
Percy Franklin Smith, PH.B. } Yale University, 1888	New Haven, Conn.	13 Home pl.
Erwin Starr Sperry, PH.B. } Yale University, 1887	Ansonia, Conn.	Ansonia
John Clayton Tracy, PH.B. } Yale University, 1890	Fair Haven, Conn.	A.
Henry Lord Wheeler, PH.B. } Yale University, 1890	Chicago, Ill.	126 Wall st.

## GRADUATE STUDENTS, 29

## SENIOR CLASS

William Adams, Jr.	Scarsdale, N. Y.	43 College st.
Frederick Max Adler	New Haven, Conn.	127 Greene st.
Harris Walton Baker	Springfield, Mass.	90 Wall st.
Willis James Black	Bridgeport, Conn.	33 Wall st.
Burton Dickinson Blair	Collinsville, Conn.	36 Elm st.
Arthur Eli Booth	Peace Dale, R. I.	33 Wall st.
Joseph Douglas Brown	New York City	62 W.
Sterling Haight Bunnell	Stratford, Conn.	146 College st.
Brown Caldwell	Pittsburgh, Pa.	90 Wall st.
DeLancey Allen Cameron	Caledonia, N. Y.	219 York st.
Robert Hanna Carnahan	Fort Wayne, Ind.	88 Wall st.
Henry Albert Carpenter	Willimantic, Conn.	134 College st.
Francis Allen Clark	Plantsville, Conn.	70 Howe st.
Noyes Dwight Clark	Woodbridge, Conn.	642 Elm st.
Robert Lewis Coleman	San Francisco, Cal.	131 Grove st.
Lehman Adams Cooper	Hagerstown, Md.	131 Grove st.
Benedict Crowell	Cleveland, O.	152 Grove st.
Homer Stille Cummings	New Haven, Conn.	376 Whitney av.
Laurence Andrew Dodsworth	New York City	44 Elm st.
Robert Metcalf Dodsworth	Los Angeles, Cal.	512 George st.
Frederick James Easterbrook	New Haven, Conn.	82 York sq.
George Sherwood Eddy	Leavenworth, Kan.	62 W.
Wyatt Collier Estes	Memphis, Tenn.	154 Grove st.

George Chandler Forrest	<i>Hartford, Conn.</i>	133 College st.
Albert Francke	<i>New York City</i>	43 College st.
Frank Hamilton Funk	<i>Bloomington, Ill.</i>	1002 Chapel st.
Edward Everett Gates	<i>Indianapolis, Ind.</i>	88 Wall st.
Willis Blake Goodwin	<i>Bangor, Me.</i>	128 Wall st.
Henry Whitmore Gregory	<i>Darien, Conn.</i>	1001 Grand av.
Lewis Winters Gunckel	<i>Dayton, O.</i>	36 Elm st.
William Pierson Hamilton	<i>New York City</i>	43 College st.
David Alexander Hays	<i>Johnstown, N. Y.</i>	248 York st.
Walter William Heffelfinger	<i>Minneapolis, Minn.</i>	131 Grove st.
Edwin Guy Helm	<i>Peru, Ind.</i>	310 Elm st.
John Williamson Herron, Jr.	<i>Cincinnati, O.</i>	128 High st.
Robert Gibson Hilton	<i>Newburgh, N. Y.</i>	248 York st.
Robert Massonneau Hoffman	<i>Red Hook, N. Y.</i>	248 York st.
Thomas Osborn Horton	<i>Peconic, N. Y.</i>	128 High st.
Robert Schuttler Hotz	<i>Chicago, Ill.</i>	248 York st.
David Lynde Huntington	<i>San Diego, Cal.</i>	168 York st.
Milton Cleaveland Isbell	<i>Ansonia, Conn.</i>	Ansonia
Theodore Caldwell Janeway	<i>New York City</i>	116 W.
Frederick William Jones, Jr.	<i>New York City</i>	43 College st.
George Coburn Kohler	<i>Akron, O.</i>	248 York st.
Augustus Frederick Kountze	<i>Omaha, Nebr.</i>	86 Wall st.
George Marcellus Landers, Jr.	<i>New Britain, Conn.</i>	43 College st.
Clifford Walter Leavenworth	<i>Wallingford, Conn.</i>	219 York st.
Daniel Alden Loring, Jr.	<i>New York City</i>	43 College st.
Charles Nassau Lowrie	<i>Warrior's Mark, Pa.</i>	134 College st.
George Eldredge McClellan	<i>Woodstock, Conn.</i>	43 College st.
David Magie Meeker	<i>Newark, N. J.</i>	1180 Chapel st.
George Wylie Mercer	<i>Omaha, Nebr.</i>	1002 Chapel st.
Harral Mulliken	<i>Washington, D. C.</i>	42 Elm st.
Gustave Munzesheimer	<i>New York City</i>	113 Wall st.
John Stevens Murdock	<i>Westbrook, Conn.</i>	Westbrook
Warren Bynner Nash	<i>Brooklyn, N. Y.</i>	42 Elm st.
John Colwell Neale	<i>Kittanning, Pa.</i>	337 Orange st.
Nathaniel Read Norton	<i>Brooklyn, N. Y.</i>	134 College st.
Stanley Hawken Pearce	<i>Denver, Col.</i>	43 College st.
Arthur Chapin Pease	<i>Ellington, Conn.</i>	64 Lake pl.
William Horace Pelton	<i>Hartford, Conn.</i>	88 Wall st.
George Nathaniel Prentiss	<i>Watertown, Wisc.</i>	132 Wall st.
Alfred Helm Preston	<i>Omaha, Nebr.</i>	88 Wall st.
Walter Grey Preston	<i>Omaha, Nebr.</i>	88 Wall st.
Milton Holley Robbins	<i>Lakeville, Conn.</i>	156 Grove st.
Eugene Boutelle Sanger	<i>Bangor, Me.</i>	36 Elm st.
Ennis Newton Searles	<i>New Haven, Conn.</i>	279 Sherman av.
John David Shattuck	<i>Norwich, N. Y.</i>	64 Lake pl.



Harry Hudson Shepard	<i>New Haven, Conn.</i>	409 Orange st.
George Monroe Sidenberg	<i>New York City</i>	124 Wall st.
George Milton Smith	<i>Plantville, Conn.</i>	70 Howe st.
Thomas Cullen Bryant Snell	<i>New Haven, Conn.</i>	105 Wooster st.
Lewis Edwards Sparrow	<i>Colchester, Conn.</i>	92 York sq.
George Pratt Starkweather	<i>New Haven, Conn.</i>	N. H. Hospital
George Fetter Stickney	<i>Buffalo, N. Y.</i>	1161 Chapel st.
Charles Ferris Sturtevant	<i>Cleveland, O.</i>	43 College st.
Edward Owen Sutton	<i>Springfield, Mass.</i>	83 Grove st.
Issa Tanimura	<i>Tokyo, Japan</i>	67 Edgewood av.
Amasa Trowbridge	<i>New Haven, Conn.</i>	685 Orange st.
Edward VanIngen	<i>New York City</i>	131 Grove st.
Clark Greenwood Voorhees	<i>New York City</i>	133 College st.
Arvine Wales	<i>Massillon, O.</i>	131 Grove st.
William Ernest Walker	<i>Chicago, Ill.</i>	131 Grove st.
Edward Young Ware	<i>St. Louis, Mo.</i>	9 Library st.
Robert Karl Wehner, Jr.	<i>New Haven, Conn.</i>	1210 Chapel st.
Rudolph Michael Weyerhaeuser	<i>Rock Island, Ill.</i>	88 Wall st.
Henry Wick, Jr.	<i>Cleveland, O.</i>	42 Elm st.
Aras James Williams	<i>Utica, N. Y.</i>	42 Elm st.
Charles Morgan Wood	<i>Dayton, O.</i>	131 Grove st.
Pierre Jay Wurts	<i>New Haven, Conn.</i>	113 Whitney av.
SENIORS, 90		

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## JUNIOR CLASS

Francis Mulliken Adams	<i>New Haven, Conn.</i>	459 Prospect st.
Wallace McKinney Alexander	<i>Oakland, Cal.</i>	250 York st.
Herbert Burr Atha	<i>Newark, N. J.</i>	1018 Chapel st.
Fred Murray Ayres	<i>Indianapolis, Ind.</i>	138 College st.
Walter Stanton Bailey	<i>Brooklyn, N. Y.</i>	37 Elm st.
William Atwater Baldwin	<i>Lahaina, Maui, H. I.</i>	250 York st.
Francis Edward Barbour	<i>Montreal, Canada</i>	226 Crown st.
Frank Harrison Barbour	<i>Detroit, Mich.</i>	226 Crown st.
Alfred Victor Barnes	<i>Brooklyn, N. Y.</i>	43 College st.
Joseph Bulkley Barnes	<i>New York City</i>	124 Wall st.
William Nicholas Beach	<i>Orange, N. J.</i>	42 Elm st.
Ben Roberts Bechtel	<i>West Chester, Pa.</i>	126 High st.
Charles Edmund Beeson	<i>Uniontown, Pa.</i>	131 Grove st.
Bartram Borden Boltwood	<i>Castleton, N. Y.</i>	137 Wall st.
Sherman Hoyt Bouton	<i>Chicago, Ill.</i>	92 York sq.
Waldo Clayton Briggs	<i>New Haven, Conn.</i>	18 Eld st.
William Henry Bronson	<i>New York City</i>	109 High st.

Harry Kilburn Brown	<i>Denver, Col.</i>	131 Grove st.
Otis Gridley Bunnell	<i>Burlington, Conn.</i>	58 Lyon st.
Lucius Lucine Button	<i>Norwich, Conn.</i>	157 York st.
Walter Lord Caldwell	<i>Ongar, Essex, England</i>	43 College st.
Robert Calhoun	<i>Chicago, Ill.</i>	131 Grove st.
George Flavius Campbell	<i>Pittsfield, Mass.</i>	49 Dixwell av.
Willard Rowe Carrol	<i>Yalesville, Conn.</i>	Yalesville
Charles Butler Chandler	<i>Hartford, Conn.</i>	114 High st.
John Charles Clark	<i>Cincinnati, O.</i>	397 Temple st.
Walter Ellsworth Coe	<i>Meriden, Conn.</i>	60 Grove st.
Wesley Roswell Coe	<i>Middlefield, Conn.</i>	West Haven
Harry Cone Collins	<i>Springfield, Mass.</i>	395 Temple st.
Egbert Wheeler Cornwall	<i>Patterson, N. Y.</i>	397 Crown st.
Wilbur Fisk Day, Jr.	<i>New Haven, Conn.</i>	310 York st.
Thomas Denny, Jr.	<i>New York City</i>	130 Wall st.
Duncan Steuart Ellsworth	<i>Penn Yan, N. Y.</i>	46 College st.
Samuel Fray	<i>Bridgeport, Conn.</i>	371 Crown st.
Claude Gignoux	<i>Monroe, N. Y.</i>	285 York st.
Simon Phillip Goodhart	<i>New Haven, Conn.</i>	221 Crown st.
George Arthur Gordon	<i>Savannah, Ga.</i>	226 Crown st.
J. Avery Gould	<i>Aurora, N. Y.</i>	131 Grove st.
Andrew Barbey Graves	<i>Brooklyn, N. Y.</i>	130 Wall st.
Joseph Sutton Green	<i>Raynham, Mass.</i>	405 Temple st.
Harry Priest Greene	<i>Amsterdam, N. Y.</i>	126 High st.
Thomas Strong Griffing	<i>Setauket, N. Y.</i>	393 Temple st.
David Cullen Griggs	<i>Waterbury, Conn.</i>	248 York st.
Herbert William Hamlin	<i>Chicago, Ill.</i>	131 Grove st.
John Henry Hammond, Jr.	<i>St. Paul, Minn.</i>	43 College st.
Josiah Harmar	<i>Philadelphia, Pa.</i>	395 Temple st.
Norman Dwight Harris	<i>Chicago, Ill.</i>	679 Chapel st.
Samuel Atkinson Harsh	<i>Denver, Col.</i>	131 Howe st.
Frank Lockwood Hatch	<i>Springfield, Ill.</i>	9 Library st.
Thomas Simmons Homans	<i>Springfield, Mass.</i>	395 Temple st.
Henry Dwight Hunt	<i>Columbia, Conn.</i>	81 Wall st.
Gustave Erwin Huttelmaier	<i>Knoxville, Tenn.</i>	192 Grove st.
Harry Helmer Jackson	<i>Chicago, Ill.</i>	106 Wall st.
Huson Taylor Jackson	<i>Allegheny City, Pa.</i>	88 Wall st.
Edward Wilson Johnstone	<i>Connellsville, Pa.</i>	126 Wall st.
Walter Woodruff Keith	<i>Chicago, Ill.</i>	131 Grove st.
James Hugh Kimball	<i>Chicago, Ill.</i>	128 High st.
James Moffatt Knapp	<i>Auburn, N. Y.</i>	65 W.
Charles Thomas Kountze	<i>Omaha, Nebr.</i>	86 Wall st.
Henry Edgar Lane	<i>Killingworth, Conn.</i>	81 Wall st.
Walter William Law, Jr.	<i>Yonkers, N. Y.</i>	1002 Chapel st.
Joseph Lesinsky	<i>New York City</i>	393 Temple st.

Isaac Chauncey McKeever	<i>New York City</i>	226 Crown st.
Edward McVickar	<i>Collinsville, N. Y.</i>	42 Elm st.
James Stephen Maher	<i>New Haven, Conn.</i>	203 East st.
Denis James Maloney	<i>New Haven, Conn.</i>	34 Ferry st.
Frank Edwin Mandel	<i>Chicago, Ill.</i>	107 Wall st.
Richard Fisher Manning	<i>Brooklyn, N. Y.</i>	68 Wall st.
Robert Valentine Massey	<i>Dover, Del.</i>	42 Elm st.
Harold Chauncey Matthews	<i>New York City</i>	159 Elm st.
Gardner Meeker	<i>Newark, N. J.</i>	161 York st.
Charles Wilson Merrels	<i>New Haven, Conn.</i>	24 Pearl st.
Reuben Miller, Jr.	<i>Pittsburgh, Pa.</i>	7 Library st.
Fred Mold	<i>Blossburg, Pa.</i>	138 St. John st.
Theophilus Nelson	<i>Bridgeport, Conn.</i>	371 Crown st.
Edward Sherman Nettleton	<i>New Haven, Conn.</i>	642 Elm st.
George Eli Nettleton	<i>New Haven, Conn.</i>	333 Exchange st.
Charles Henry Nichols	<i>Branford, Conn.</i>	Branford
Louis Septimus Owsley	<i>Chicago, Ill.</i>	131 Grove st.
Richard Francis Pearce	<i>Denver, Col.</i>	130 Wall st.
Montague Elias Perkins	<i>Bristol, Conn.</i>	295 York st.
Roger Swope Pitkin	<i>Chicago, Ill.</i>	285 York st.
Miles Albion Pond	<i>Torrington, Conn.</i>	57 Grove st.
John Keeler Punderford	<i>New Haven, Conn.</i>	74 Howe st.
Harry Ralston Quinn	<i>Milton, Vt.</i>	101 Greene st.
Charles Cornwell Ramsdell	<i>New Haven, Conn.</i>	104 Wall st.
George Wolf Reily, Jr.	<i>Harrisburg, Pa.</i>	347 York st.
William Reynolds Ricketts	<i>Wilkes-Barre, Pa.</i>	36 Elm st.
Charles Marcy Robinson	<i>Middletown, Conn.</i>	305 George st.
Albert B. Rogowski	<i>New Haven, Conn.</i>	318 Crown st.
Frank Herbert Sampson	<i>Boston, Mass.</i>	159 Elm st.
William Parker Sargent	<i>Chicago, Ill.</i>	137 Wall st.
Albert Leslie Sessions	<i>Bristol, Conn.</i>	248 York st.
Edward Helfenstein Simmons	<i>St. Louis, Mo.</i>	131 Grove st.
Arthur Jarvis Slade	<i>New York City</i>	248 York st.
Ralph William Sprague	<i>Chicago, Ill.</i>	36 Elm st.
Alix Welch Stanley	<i>New Britain, Conn.</i>	42 Elm st.
Paul Sterling	<i>Bridgeport, Conn.</i>	152 Grove st.
Harry Taylor Stoddart	<i>Wilkes-Barre, Pa.</i>	38 Lynwood st.
James Graham Stokes	<i>New York City</i>	130 Wall st.
Worthington Smith Telford	<i>St. Albans, Vt.</i>	389 Temple st.
Isaac Biddle Thomas	<i>West Chester, Pa.</i>	159 Elm st.
Charles Stewart Towle	<i>New York City</i>	131 Grove st.
John Henry Vought	<i>Buffalo, N. Y.</i>	131 Grove st.
Percy Talbot Walden	<i>Brooklyn, N. Y.</i>	86 W.
Walter Frederick Waring	<i>Savannah, Ga.</i>	131 Grove st.
Lauren Kellogg Warnick	<i>Amsterdam, N. Y.</i>	248 York st.

Isaac Weil	<i>San Francisco, Cal.</i>	124 Wall st.
Charles Weiser	<i>York, Pa.</i>	86 w.
Alfred Pelton Wheeler	<i>Meriden, Conn.</i>	59 Grove st.
Edward Lancaster Whittemore	<i>Fort Union, N. M.</i>	213 Wooster st.
Charles Mallory Williams	<i>Brooklyn, N. Y.</i>	152 Grove st.
Philip Keeney Williams	<i>Hartford, Conn.</i>	114 High st.
John Baker Winstandley	<i>Bedford, Ind.</i>	88 Wall st.
Walter Abbott Wood, Jr.	<i>Hoosac Falls, N. Y.</i>	433 Temple st.
William Bassett Woodward	<i>Denver, Col.</i>	131 Grove st.
Vincent Jay Youmans	<i>Mount Vernon, N. Y.</i>	405 Temple st.
Clarence Clark Zantzing	<i>Philadelphia, Pa.</i>	38 Elm st.

JUNIORS, 118

## FRESHMAN CLASS

Roger Cook Adams	<i>New Haven, Conn.</i>	459 Prospect st.
Frank Alvan Alexander	<i>Oakland, Cal.</i>	154 Grove st.
Harris Platt Allen	<i>New York City</i>	136 Howe st.
William Bradford Allen	<i>New Haven, Conn.</i>	284 Orange st.
Mortimer Harmount Alling	<i>New Haven, Conn.</i>	238 Orchard st.
William Marvin Armstrong	<i>Brooklyn, N. Y.</i>	126 Wall st.
James Howard Bailey	<i>Brooklyn, N. Y.</i>	126 Wall st.
Anson Baldwin	<i>Yonkers, N. Y.</i>	389 Temple st.
Joseph Henry Bamberg	<i>New Haven, Conn.</i>	75 Nicoll st.
Donn Barber	<i>New York City</i>	393 Temple st.
Morris Hugus Beall	<i>Omaha, Nebr.</i>	114 High st.
James Beach Beckett	<i>Western Springs, Ill.</i>	411 Temple st.
Charles Pool Belden	<i>Chicago, Ill.</i>	289 York st.
William Bart Berger	<i>Denver, Col.</i>	90 Wall st.
Walter Spencer Billard	<i>Meriden, Conn.</i>	61 Grove st.
Oliver Chandler Billings	<i>New York City</i>	133 College st.
Orland Rossini Blair	<i>New Britain, Conn.</i>	59 Grove st.
Robert Sylvester Blakeman	<i>Stratford, Conn.</i>	146 College st.
Lawrence Thornton Bliss	<i>New York City</i>	132 Wall st.
Harry Lattimer Bloodgood	<i>New York City</i>	242 York st.
John Merrill Boden	<i>Bradford, Pa.</i>	1076 Chapel st.
Almon Farrel Bowen	<i>Waterbury, Conn.</i>	65 Grove st.
Joseph Judson Brooks, Jr.	<i>Pittsburgh, Pa.</i>	391 Temple st.
Walter Frank Brown	<i>New London, Conn.</i>	226 Crown st.
Nelson Reardsley Burr	<i>Auburn, N. Y.</i>	132 Wall st.
Alexander James Campbell	<i>San Francisco, Cal.</i>	65 Grove st.
James Edward F. Campbell	<i>New York City</i>	114 High st.
Sheldon Cary	<i>Cleveland, O.</i>	1010 Chapel st.

John Davenport Cheney	<i>So. Manchester, Conn.</i>	226 Crown st.
George Clifford Clark	<i>Terryville, Conn.</i>	22 Lynwood st.
Herman Daggett Clark, Jr.	<i>New Haven, Conn.</i>	13 Trumbull st.
John Williams Coe	<i>Meriden, Conn.</i>	60 Grove st.
William Garrard Comly	<i>Indianapolis, Ind.</i>	141 High st.
Henry Failing Conner	<i>Portland, Oregon</i>	146 College st.
Lester Wiggins Day	<i>Louisville, Ky.</i>	407 Temple st.
Hughes Dayton	<i>Southport, Conn.</i>	84 Wall st.
James Laird deVou	<i>Wilmington, Del.</i>	133 College st.
James Dudley Dewell, Jr.	<i>New Haven, Conn.</i>	400 Orange st.
Fredrick Wead Drury, Jr.	<i>St. Louis, Mo.</i>	425 Temple st.
Leroy Church Dupee	<i>Chicago, Ill.</i>	67 Whalley av.
Ernest Bradford Ellsworth	<i>Hartford, Conn.</i>	397 Temple st.
Albert DeWolf Erskine	<i>Chicago, Ill.</i>	407 Temple st.
Jason Evans	<i>Morristown, N. J.</i>	395 Temple st.
Mark Ewing	<i>St. Louis, Mo.</i>	124 Wall st.
Joseph Brooks Fair	<i>Chicago, Ill.</i>	40 Elm st.
Smith Farley Ferguson	<i>Troy, N. Y.</i>	335 Orange st.
Howard Judson Fish	<i>Pasadena, Cal.</i>	19 Wall st.
Marc Milton Fishel	<i>New York City</i>	114 High st.
James Henry Follis	<i>San Francisco, Cal.</i>	159 Elm st.
Frederick Luther Ford	<i>North Branford, Conn.</i>	313 Grand av.
George Congdon Fouse	<i>Washington, D. C.</i>	8 Trumbull st.
Edward Levi Fox	<i>New Haven, Conn.</i>	117 Park st.
Arthur Graham Freeland	<i>New York City</i>	150 Grove st.
Richard Garlick	<i>Youngstown, O.</i>	109 Elm st.
Albert Dewitt Gibbs	<i>Chicago, Ill.</i>	31 Trumbull st.
Harry Smythe Gordon	<i>Cleveland, O.</i>	1010 Chapel st.
Gaston Gunter	<i>Montgomery, Ala.</i>	314 York st.
Robert Ezra Hall	<i>Hartford, Conn.</i>	124 Wall st.
Samuel Mowbry Hammond, Jr.	<i>Torrington, Conn.</i>	382 George st.
Thomas King Hanna, Jr.	<i>Kansas City, Mo.</i>	389 Temple st.
Howard Joseph Haslehurst	<i>Brooklyn, N. Y.</i>	86 Wall st.
Arthur Stephen Hawley	<i>New Haven, Conn.</i>	20 Gill st.
Charles Borland Hill	<i>Montgomery, N. Y.</i>	409 Temple st.
Louis Warren Hill	<i>St. Paul, Minn.</i>	1076 Chapel st.
Frank Elijah Hine	<i>Milford, Conn.</i>	55 Trumbull st.
Charles Wilcox Hitchcock	<i>Cleveland, O.</i>	233 York st.
Sidney Stone Holt	<i>New Haven, Conn.</i>	71 Dwight st.
William Thomas Hildrup Howe	<i>Cazenovia, N. Y.</i>	215 Norton st.
Hampton Howell	<i>Brooklyn, N. Y.</i>	86 Wall st.
Phelps Buttolph Hoyt	<i>Chicago, Ill.</i>	391 Temple st.
William Churchill Hungerford	<i>New Britain, Conn.</i>	38 Elm st.
George Albert Hutchinson	<i>Chicago, Ill.</i>	136 College st.
Charles Anthony Ingersoll	<i>New Haven, Conn.</i>	24 Elm st.

Harry Churchill January	<i>St. Louis, Mo.</i>	395 Temple st.
William Rankin Johnston	<i>Shippensburg, Pa.</i>	228 Crown st.
Thomas O'Connor Jones	<i>Pittsburgh, Pa.</i>	132 Wall st.
Charles Oscar Kalman	<i>St. Paul, Minn.</i>	124 Wall st.
John Hume Kedzie, Jr.	<i>Evanston, Ill.</i>	40 Elm st.
William Lansing, Jr.	<i>Albany, N. Y.</i>	335 Orange st.
Elmer Arthur Lawbaugh	<i>Opechee, Mich.</i>	255 Crown st.
Burton Leonard Lawton	<i>Meriden, Conn.</i>	Meriden
Louis Cicero Lawton	<i>Brooklyn, Conn.</i>	55 Prospect st.
Joseph Lentilhon, Jr.	<i>New York City</i>	391 Temple st.
Harry Blakeman Lewis	<i>New Haven, Conn.</i>	438 George st.
Frank Allen Little	<i>Meriden, Conn.</i>	Meriden
Samuel Whiter McCaulley	<i>Wilmington, Del.</i>	397 Temple st.
Vance Criswell McCormick	<i>Harrisburg, Pa.</i>	133 College st.
Clifford Whiting McGee	<i>Plainfield, N. J.</i>	146 College st.
William McKell	<i>Chillicothe, O.</i>	1010 Chapel st.
Charles Eugene McLane	<i>Baltimore, Md.</i>	109 Wall st.
Fred Bogart McMullen	<i>Picton, Ontario, Can.</i>	419 Temple st.
Herbert Yarwood McMullen	<i>Picton, Ontario, Can.</i>	419 Temple st.
Winslow Mallery	<i>Cincinnati, O.</i>	395 Temple st.
Leonard Mandel	<i>Chicago, Ill.</i>	137 College st.
Edward Anthony Mitchell	<i>New Haven, Conn.</i>	79 Trumbull st.
Lysander Royster Moore, Jr.	<i>Kansas City, Mo.</i>	389 Temple st.
Henry Hotchkiss Murray	<i>Viola, Del.</i>	54 Garden st.
Oliver Peter Nicola	<i>Cleveland, O.</i>	132 Wall st.
Fred Henry Osborne	<i>New Haven, Conn.</i>	223 Bradley st.
Samuel Cupples Pierce	<i>St. Louis, Mo.</i>	395 Temple st.
Edward Harrison Post	<i>Wilkes-Barre, Pa.</i>	36 Elm st.
Herbert Leroy Potter	<i>North Guilford, Conn.</i>	15 Rose st.
Joseph Hyde Pratt	<i>West Hartford, Conn.</i>	397 Temple st.
Wiley Byrd Raymond	<i>Wyoming, O.</i>	391 Temple st.
Harry Parks Ritchie	<i>St. Paul, Minn.</i>	114 High st.
Allan Appleton Robbins	<i>New York City</i>	109 Wall st.
Ralph Stewart Robinson	<i>Colchester, Conn.</i>	255 Ferry st.
Samuel Moorhead Russell	<i>Bedford Springs, Pa.</i>	120 High st.
Alexander Kirkwood Sedgwick	<i>Ishpeming, Mich.</i>	1090 Chapel st.
George Bargh Sedgwick	<i>Ishpeming, Mich.</i>	1090 Chapel st.
DeForest Lee Selover	<i>Cleveland, O.</i>	55 Trumbull st.
Edward Olin Smith	<i>Springfield, Mass.</i>	109 Elm st.
Lewis Motter Smith	<i>St. Joseph, Mo.</i>	126 Wall st.
Frederick Clarence Spencer	<i>Old Saybrook, Conn.</i>	411 Temple st.
Alfred Hull Stevens	<i>Clinton, Conn.</i>	117 Park st.
William Petheric Stevens	<i>Detroit, Mich.</i>	425 Temple st.
Raymond French Stoddard	<i>Milford, Conn.</i>	Milford
Charles Bradley Stoughton, Jr.	<i>New Haven, Conn.</i>	339 Prospect st.

Frederick Enos Stow	<i>Plantsville, Conn.</i>	70 Howe st.
Richard Pearson Strong	<i>Atlanta, Ga.</i>	200 Grove st.
Henry Augustus Stults	<i>Savannah, Ga.</i>	409 Temple st.
Richard Schoonmaker Suydam	<i>Allegheny City, Pa.</i>	9 Library st.
Edward Coleman Talcott	<i>Hartford, Conn.</i>	133 College st.
William Buffum Thompson	<i>Pasadena, Cal.</i>	19 Wall st.
Walter Henry Tilton	<i>New Haven, Conn.</i>	235 Dixwell av.
John Stewart Tritle	<i>Prescott, Arizona</i>	407 Orange st.
Albert Leverett VanHuyck	<i>Lee, Mass.</i>	17 Home pl.
McLane VanIngen	<i>New York City</i>	425 Temple st.
Paul Wentworth Webster	<i>Cleveland, O.</i>	83 Grove st.
Frederick Brown Wells	<i>Minneapolis, Minn.</i>	158 Whitney av.
Robert William Whitehead	<i>Wakefield, Mass.</i>	223 York st.
Howard Dudley Wiggins	<i>Indianapolis, Ind.</i>	141 High st.
Ira Edward Wight	<i>New Orleans, La.</i>	389 Temple st.
Eugene Robbins Willard	<i>Hartford, Conn.</i>	146 College st.
Wallace Charles Winter	<i>St. Paul, Minn.</i>	114 High st.
Ernest Strong Witbeck	<i>Detroit, Mich.</i>	133 College st.
Harry Philip Womelsdorf	<i>Pottsville, Pa.</i>	130 Wall st.

FRESHMEN, 137

## SPECIAL STUDENTS NOT CANDIDATES FOR A DEGREE

John Harry Frambach	<i>Kaukauna, Wisc.</i>	138 Court st.
James Tracy Hill	<i>Chicago, Ill.</i>	43 College st.
William Whittemore Low	<i>New Haven, Conn.</i>	213 Wooster st.
Arthur Stein	<i>Chicago, Ill.</i>	107 Wall st.
George Curtis Treadwell	<i>Albany, N. Y.</i>	184 York st.

SPECIAL STUDENTS, 5

## SUMMARY

GRADUATES	.	.	.	.	.	29
SENIORS	.	.	.	.	.	90
JUNIORS	.	.	.	.	.	118
FRESHMEN	.	.	.	.	.	137
SPECIAL STUDENTS	.	.	.	.	.	5
						379

## SCHOOL OF THE FINE ARTS

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Carlos W. Allyn	<i>Groton, Conn.</i>
Marian Armstrong	<i>New Haven, Conn.</i>
Leonora P. Arvine	<i>New Haven, Conn.</i>
Bertha P. Attwood	<i>East Haddam, Conn.</i>
Constance H. Blake	<i>New Haven, Conn.</i>
Elizabeth K. Bradley	<i>New Haven, Conn.</i>
Grace Bronson	<i>New Haven, Conn.</i>
Susan J. Candee	<i>New Haven, Conn.</i>
Elizabeth C. Cooper	<i>New Haven, Conn.</i>
Grace Daggett	<i>New Haven, Conn.</i>
Ozias B. Dodge	<i>Groton, Mass.</i>
Myra E. Dowd	<i>East River, Conn.</i>
John I. H. Downes	<i>New Haven, Conn.</i>
Caroline R. Durgy	<i>New Haven, Conn.</i>
Mabel L. Fairbank	<i>Middletown, Conn.</i>
Edith A. Fisher	<i>New Haven, Conn.</i>
Elizabeth T. Fitch	<i>New Haven, Conn.</i>
Mary Foote	<i>Guilford, Conn.</i>
Elizabeth Griswold	<i>New Haven, Conn.</i>
Sarah E. Hewit	<i>Bridgeport, Conn.</i>
Ellen B. Holcomb	<i>New Haven, Conn.</i>
Irving E. Hurlbut	<i>New Haven, Conn.</i>
George H. Langzettel	<i>New Haven, Conn.</i>
Emma S. Lee	<i>New Haven, Conn.</i>
Josephine M. Lewis	<i>New Haven, Conn.</i>
Mary B. Lyman	<i>New Haven, Conn.</i>
Ida K. Macphie	<i>New Haven, Conn.</i>
Mary A. Miller	<i>New Haven, Conn.</i>
Katharine T. Moody	<i>St. Louis, Mo.</i>
Mary R. North	<i>New Haven, Conn.</i>
Elizabeth B. Richards	<i>West Haven, Conn.</i>
Harriet R. Richards	<i>New Haven, Conn.</i>



Edith H. Smith	<i>New Haven, Conn.</i>
William B. Smith	<i>New Haven, Conn.</i>
S. Kate Spencer	<i>Westerville, O.</i>
Laura Stoughton	<i>New Haven, Conn.</i>
Caroline L. Thomas	<i>New Haven, Conn.</i>
G. Albert Thompson	<i>Fair Haven, Conn.</i>
Mary Thompson	<i>Poughkeepsie, N. Y.</i>
Alpheus Verrill	<i>New Haven, Conn.</i>
Evalina E. Wadsworth	<i>New Haven, Conn.</i>
Rose A. Ward	<i>New Haven, Conn.</i>
Ellen Whiting	<i>Norfolk, Conn.</i>
Vouletti Whitlock	<i>Shelton, Conn.</i>

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Art Students,	44
Special Undergraduate Students in Drawing,	137
Total number of students receiving instruction,	181

# DEPARTMENT OF THEOLOGY

## (YALE DIVINITY SCHOOL)

### RESIDENT LICENTIATES,

#### ATTENDING LECTURES

Eli George Biddle	<i>New Haven, Conn.</i>	115 Day st.
John T. Hammond	<i>New Haven, Conn.</i>	139 Goffe st.
William Fisher Markwick, Richmond (Eng.) Wesleyan College }	<i>New Haven, Conn.</i>	149 St. John st.
Frederic Lorenzo Stevens. B.A. Olivet College, 1882, B.D. Yale University, 1885 }	<i>Winona, Minn.</i>	88 Park st.

RESIDENT LICENTIATES, 4

### GRADUATE CLASS,

#### PURSUING FOURTH YEAR STUDIES

William Perry Arbuckle, B.A. } Oberlin College, 1885, B.D. Boston University, 1889 }	<i>New Haven, Conn.</i>	75 Fourth st.
Gerald Hamilton Beard, B.A. } Yale Univ., 1887, B.D. Yale, 1890 (On the Graduate Fellowship) }	<i>Chicago, Ill.</i>	29 E.
Clay Dent Chunn, B.D. } Yale University, 1889 }	<i>Chaptico, Md.</i>	56 W.
Charles Dow Crawford, B.A. } Drury College, 1887, B.D. Yale University, 1890 }	<i>Springfield, Mo.</i>	23 E.
Arthur Hill Daniels, B.A. } Olivet College, 1887, B.D. Yale University, 1890 }	<i>Millis, Mass.</i>	97 W.
William Watts Davidson, B.A. } Yadkin College, 1880, B.D. Yale University, 1888 }	<i>Gibsonville, N. C.</i>	56 W.
Albert Wellman Hitchcock, B.A. } Amherst Coll., 1882, B.D. Yale, 1889 (On the Hooker Fellowship) }	<i>Kalamazoo, Mich.</i> <i>Berlin, Germany</i>	

Idrys Jones, B.D. } Yale University, 1886 }	<i>Williamstown, Vt.</i>	63 Grove st.
Charles Felix Leinbach, B.D. } Moravian Theol. Seminary }	<i>Bethlehem, Pa.</i>	76 w.
Frank Ranney Luckey, B.S. } Cornell University, 1882, } B.D. Yale University, 1888 }	<i>New Haven, Conn.</i>	21 Eld st.
Luther Kendall Long, PH.B. } Adrian College, 1883, } B.D. Yale University, 1889 }	<i>New Haven, Ct.</i>	164 Newhall st.
Julius Adolph Meckel, B.D. } Yale University, 1890 }	<i>Cleveland, O.</i>	104 w.
Edward Bagby Pollard, B.A. } Richmond College, 1886 }	<i>Richmond, Va.</i>	107 w.
Elmer Ellsworth Smiley, B.A. } Syracuse University, 1885, } B.D. Yale University, 1890 }	<i>North Syracuse, N. Y.</i>	81 w.
Joseph Jansen Spencer, B.A. } Otterbein University, 1884, } B.D. Yale University, 1890 }	<i>Westerville, O.</i>	80 w.
William Austin Trow, B.A. } Amherst College, 1886, } B.D. Yale University, 1890 }	<i>Northampton, Mass.</i>	19 E.

## GRADUATE CLASS, 16

## SENIOR CLASS

Joseph Marion Adams, M.A. } DePauw University, 1889 }	<i>Paris, Ill.</i>	103 w.
George Page Anderson, B.A. } Whitman College, 1886 }	<i>Walla Walla, Wash.</i>	32 E.
Jacob Cornelius Bergmans, } Albion College }	<i>Grand Rapids, Mich.</i>	76 w.
Claus Alfrid Bergström, B.A. } Brown University, 1888 }	<i>East Greenwich, R. I.</i>	44 E.
Edward Ernest Bradley, B.A. } Williams College, 1885 }	<i>Stockbridge, Mass.</i>	109 w.
George Atwood Brock, B.A. } Harvard University, 1888 }	<i>Boston, Mass.</i>	24 E.
Albert Shepard Bromer, B.S. } Ursinus College, 1888 }	<i>Schwenksville, Pa.</i>	46 E.
Harvey Safford Bush, B.A. } University of Michigan, 1888 }	<i>Port Huron, Mich.</i>	12 E.
Chester Merrit Clark, B.A. } Knox College, 1886 }	<i>Galesburg, Ill.</i>	111 w.
James Romeyn Danforth, Jr., B.A. } Amherst College, 1888 }	<i>Philadelphia, Pa.</i>	33 E.

Hiram Everett Farnham, B.A. } Colby University, 1889	<i>Belgrade, Me.</i>	50 E.
Frank Lewis Garfield, B.A. } Amherst College, 1888	<i>East Jaffrey, N. H.</i>	8 E.
Frank Lovejoy Johnston, B.A. } Wheaton College, 1889	<i>Byron, Ill.</i>	98 W.
Kevork Harutune Kazanjian, } Marash Theol. Seminary, 1880	<i>Aintab, Turkey</i>	117 W.
Edward Everett Keedy, B.A. } Lebanon Valley College, 1889	<i>Rohrersville, Md.</i>	92 W.
James Harvey Keeling, B.A. } Rutgers College, 1889	<i>Utica, N. Y.</i>	6 E.
William Gilbert Lathrop, B.A. } Brown University, 1889	<i>Providence, R. I.</i>	36 E.
Edward Olaus Loe, B.A. } Yale University, 1889	<i>Grand Meadow, Minn.</i>	37 E.
Claire Franklin Luther, B.A. } Amherst College, 1889	<i>Painesville, O.</i>	41 E.
William Henry Manss, B.A. } Wittenberg College, 1887	<i>Cincinnati, O.</i>	31 E.
Duncan Salisbury Merwin, B.A. } Yale University, 1888	<i>New Haven, Conn.</i>	106 W.
Harry Roberts Miles, B.A. } Harvard University, 1888	<i>Appleton, Wisc.</i>	96 W.
William Sacheus Morgan, } Baptist College, Pontypool	<i>Pontypool, England</i>	100 W.
Roscoe Nelson, B.A. } Bates College, 1887	<i>Canaan, Me.</i>	83 W.
Richard Owen, B.A. } Marietta College, 1889	<i>Pittsburgh, Pa.</i>	90 W.
Charles Eugene Ozanne, B.A. } Adelbert College, 1889	<i>Cleveland, O.</i>	43 E.
Gaylord Hawkins Patterson, B.A. } Ohio Wesleyan University, 1888, Ph.D. Yale University, 1890	<i>Slippery Rock, Pa.</i>	2 E.
Morgan Everett Powelson, B.A. } Lafayette College, 1889	<i>Plainfield, O.</i>	82 W.
Benjamin Berry Seelye, B.A. } Yale University, 1876	<i>Middlebury, Conn.</i>	36 E.
Edward Parsons Seymour, B.A. } Amherst College, 1884	<i>Washington, D. C.</i>	571 Elm st.
Irving Francis Wood, M.A. } Hamilton College, 1888	<i>North Walton, N. Y.</i>	4 E.
Samuel Hetherington Woodrow, B.A. } Bates College, 1888	<i>Auburn, Me.</i>	23 Shelton av.

## JUNIOR CLASS

Edward Perkins Ayer, } Amherst College	<i>Brookfield, Mass.</i>	70 W.
Otis Webb Barker, B.A. } Amherst College, 1884	<i>Brooklyn, N. Y.</i>	125 High st.
Theodore Protas Berle, B.A. } Oberlin College, 1890	<i>St. Louis, Mo.</i>	85 W.
Edward Shepard Bromer, B.A. } Ursinus College, 1890	<i>Schwenksville, Pa.</i>	46 E.
Bert Francis Case, B.A. } Yale University, 1890	<i>Granby, Conn.</i>	49 E.
Samuel Davies, } Carmarthen College, 1890	<i>Penboyt, South Wales</i>	55 W.
Albert Putnam Davis, B.A. } Amherst College, 1887	<i>Hyde Park, Mass.</i>	28 E.
Booth Colwell Davis, B.A. } Alfred University, 1890	<i>Jane Lew, W. Va.</i>	49 E.
Frank Butler Doane, B.A. } Amherst College, 1890	<i>Hawley, Mass.</i>	91 W.
Evan Evans, B.A. } Marietta College, 1890	<i>Cincinnati, O.</i>	60 W.
Charles Edward Ewing, B.A. } Amherst College, 1890	<i>Danvers, Mass.</i>	115 W.
George Henry Ewing, B.A. } Amherst College, 1890	<i>Danvers, Mass.</i>	91 W.
George Henry Flint, M.A. } Williams College, 1889	<i>Lincoln, Mass.</i>	53 E.
Joseph Searle Gaylord, B.A. } Knox College, 1885	<i>Plymouth, Ill.</i>	59 W.
Henry Martin Goddard, B.A. } Middlebury College, 1890	<i>Ludlow, Vt.</i>	118 W.
Lincoln Baker Goodrich, B.A. } Amherst College, 1888	<i>Plainfield, N. J.</i>	121 W.
Edwin Milton Griffin, B.A. } Cornell University, 1890	<i>Buffalo, N. Y.</i>	55 W.
Charles Edward Harris, B.A. } B.A. Yale University, 1885, M.A. Columbia College, 1886	<i>Providence, R. I.</i>	107 W.
Fosdick Beach Harrison, B.A. } Amherst College, 1890	<i>Bethlehem, Conn.</i>	51 E.
Richard Henry Hughes, } Bala Calvinistic Methodist College	<i>Tan'rallt, N. Wales</i>	60 W.
Robert Seney Ingraham, B.A. } Wesleyan University, 1888	<i>Brooklyn, N. Y.</i>	40 E.
Albert Burton Jowett, B.A. } Fisk University, 1889	<i>Bonthe, West Africa</i>	52 E.
John Lincoln Keedy, B.A. } Lebanon Valley College, 1889	<i>Rohrersville, Md.</i>	92 W.

Charles Pennypacker Kehl, B.A. } Ursinus College, 1890	<i>East Greenville, Pa.</i>	74 W.
Webster Kelley, B.A. } Harvard University, 1879	<i>Boston, Mass.</i>	67 W.
Harvey Merrill Lawson, PH.B. } Yale University, 1890	<i>Union, Conn.</i>	56 N. S. H.
James McLaughlin, B.A. } Brown University, 1890	<i>Danielsonville, Conn.</i>	53 E.
Willard Carey MacNaul, B.A. } Bucknell University, 1890	<i>Salona, Pa.</i>	75 W.
James Brittain Miller, } Michigan State Normal School	<i>Ypsilanti, Mich.</i>	58 W.
Warren Joseph Moulton, B.A. } Amherst College, 1888	<i>Center Sandwich, N. H.</i>	48 E.
Ernest Alfonzo Orr, } Mt. Morris College	<i>Philadelphia, Pa.</i>	295 York st.
Frank Park, B.A. } Iowa State University, 1889	<i>Viola, Ill.</i>	59 W.
Robert Paton, B.A. } Oberlin College, 1888	<i>Almont, Mich.</i>	255 Crown st.
Frank Curtiss Putnam, B.A. } Amherst College, 1890	<i>Buffalo, N. Y.</i>	120 W.
Charles Rollin Shatto, B.A. } Western College, 1890	<i>Toledo, Iowa</i>	119 W.
Harry Elmer Small, B.A. } Amherst College, 1890	<i>Machiasport, Me.</i>	115 W.
Wilson Reed Stewart, B.A. } Wittenberg College, 1890	<i>Bucyrus, O.</i>	31 E.
Bernard Tyrrell, B.A. } Hillsdale College, 1888	<i>McGaheysville, Va.</i>	123 W.
Charles Prest Wells, B.A. } Victoria University, 1890	<i>Sarnia, Ont., Canada</i>	79 W.
Herbert Pekin Woodin, B.A. } Amherst College, 1888	<i>Foochow, China</i>	41 E.
William Michael Zumbro, M.A. } Western College, 1890	<i>Purdin, Mo.</i>	57 W.

JUNIOR CLASS, 41

## SUMMARY

RESIDENT LICENTIATES, . . . . .	4
GRADUATE CLASS, . . . . .	16
SENIOR CLASS, . . . . .	45
MIDDLE CLASS, . . . . .	33
JUNIOR CLASS, . . . . .	41
TOTAL, . . . . .	139

# DEPARTMENT OF MEDICINE

## (YALE MEDICAL SCHOOL)

### SENIOR CLASS

Frank Judson Bardwell	<i>Tunkhannock, Pa.</i> 106 York sq.
John Steele Barnes	<i>Oxford, Conn.</i> 25 Dow st.
Edward Lydston Bliss, B.A. }	<i>Newburyport, Mass.</i> 141 Temple st.
Yale University, 1887 }	
Frederick Oscar Chamberlain, }	<i>Mount Morris, N. Y.</i> 139 Elm st.
B.L. and B.S. Paris, 1888 }	
Harry Alfred Elcock	<i>New Haven, Conn.</i> 106 York sq.
Henry Floyd Gamble, B.A. }	<i>Charlottesville, Va.</i> 115 Day st.
Lincoln University, 1888 }	
Charles Winthrop Hartwell	<i>New Haven, Ct.</i> 12 University pl.
Samuel Wellington Irving	<i>Birmingham, Conn.</i> 404 Crown st.
Reuben Arthur Lockhart	<i>Bridgeport, Conn.</i> 103 Park st.
James Henry McNerny	<i>Worcester, Mass.</i> 103 Park st.
Paul Skiff Robinson, PH.B. }	<i>New Haven, Conn.</i>
Yale University, 1889 }	1 Hillhouse av.
Shiukichi Shigemi, PH.B. }	<i>Imabari, Japan</i> 111 York st.
Yale University, 1888 }	
Clarence Edward Skinner	<i>Westville, Conn.</i> 24 College st.
Richard Ward Westbrook	<i>New Haven, Conn.</i> 174 Olive st.
George Herbert Williams, }	<i>New York City</i>
M.R.C.S. London, 1883 }	

SENIOR CLASS, 15

### MIDDLE CLASS

George Newton Bell	<i>Windsor, Conn.</i> 107 Temple st.
Richard Francis Brown	<i>New Britain, Conn.</i> 351 East st.
Rollin Blackman Chatfield	<i>Seymour, Conn.</i> 311 York st.
Elias Wyman Davis, B.A. }	<i>New Haven, Conn.</i> 311 York st.
Yale University, 1880 }	
Timothy John Foley	<i>Worcester, Mass.</i> 255 Crown st.
Austin Brainerd Fuller, B.A. }	<i>New Haven, Conn.</i> 145 Olive st.
Yale University, 1866 }	
Frederick George Graves	<i>Danbury, Conn.</i> 107 Temple st.
James Brown Griswold	<i>Lyme, Conn.</i> 121 Elm st.
Joseph Barnard Hall	<i>Hartford, Conn.</i> 297 George st.

Moses Jacob Husinsky	<i>New Haven, Ct.</i> 436 Congress av.
George Henry Jackson	<i>New Haven, Conn.</i> 115 Day st.
Eugene Stout Ripley	<i>Asbury Park, N. J.</i> 1360 Chapel st.
Alexander Rovinsky	<i>New Haven, Conn.</i> 187 Franklin st.
Hyman Solomon Shlevin	<i>New Haven, Conn.</i> 608 Grand av.
William Charles Wurtemberg, PH.B. } Yale University, 1889	<i>Willink, N. Y.</i> 217 York st.
MIDDLE CLASS, 15	

## JUNIOR CLASS

Woodburne Roszel Avis	<i>New Haven, Conn.</i> 124 Division st.
Bernard James Bannon	<i>Boston, Mass.</i> 274 George st.
Frederick Lewis Bristol	<i>Ansonia, Conn.</i> Ansonia
Ambrose Kirk Brennan	<i>New Haven, Conn.</i> 179 Franklin st.
Frederick Stanley Cowles	<i>Rome, N. Y.</i> 100 Whalley av.
William Martin Curtiss	<i>Norfolk, Conn.</i> 274 George st.
Alexander William Evans, PH.B. } Yale University, 1890	<i>New Haven, Conn.</i> 12 High st.
Alejandro García Aragón, } College of San Luis Gonzaga	<i>Cartago, Costa Rica</i> 24 College st.
Charles Edmund Geer	<i>Meriden, Conn.</i> 24 Dow st.
Frederick Carl Goldstein	<i>Ansonia, Conn.</i> Ansonia
Edward Winchester Goodenough, B.A. } Yale University, 1887	<i>Winchester, Conn.</i> 553 Howard av.
Miles Remond Gordon	<i>Chelsea, Mass.</i> 115 Day st.
John Augustus Hartwell, PH.B. } Yale University, 1889	<i>Jersey City, N. J.</i> 88 Wall st.
Howard Wolcot Holton	<i>New Haven, Conn.</i> 379 George st.
William Matthew Kenna, PH.B. } Yale University, 1890	<i>New Haven, Conn.</i> 440 State st.
William Alfred Korn, B.A. } Yale University, 1890	<i>Norwich, Conn.</i>
Alfred Stillé Ives	<i>New Haven, Conn.</i> 347 Temple st.
George Newton Lawson, B.A. } Yale University, 1890	<i>Union, Conn.</i> 22 College st.
Ralph Augustine McDonnell, B.A. } Yale University, 1890	<i>New Haven, Conn.</i> 266 Portsea st.
Thomas Edward McEvoy, B.A. } Yale University, 1890	<i>Hopkinton, Mass.</i> 125 Dwight st.
Edward Lyman Munson, B.A. } Yale University, 1890	<i>Whitneyville, Conn.</i> 137 Elm st.
Fuerchtegott Forst Richard Oertel	<i>New Haven, Conn.</i> 31 York sq.
Charles O'Leary, Jr.	<i>Providence, R. I.</i> 928 Chapel st.



Homer Tomlinson Partree, B.A. } Yale University, 1887	Woodbury, Conn. 553 Howard av.
Isaac Napoleon Porter, B.A. } Lincoln University, 1890	Summit Bridge, Del. 115 Day st.
Martial Adolph Scharton	North Haven, Conn. North Haven
Thomas Bond Shaw, B.A. } Yale University, 1890	Worcester, Mass. 18 Dickerman st.
William Alexander Simms	Dayton, O. 248 York st.
Morris Dore Slattery	New Haven, Conn. 172 DeWitt st.
James Henry Spear	Fair Haven, Conn. 236 Prospect st.
John Francis Sulliyan, B.A. } Yale University, 1890	New Haven, Conn. 928 Chapel st.
Frederick Benoni Sweet	Lebanon, Conn. 381 Crown st.
	JUNIOR CLASS, 32

## SPECIAL STUDENT

Kumato Morita	Kyoto, Japan	439 George st.
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## SUMMARY

SENIOR CLASS, . . . . .	15
MIDDLE CLASS, . . . . .	15
JUNIOR CLASS, . . . . .	32
SPECIAL STUDENT, . . . . .	1
TOTAL, . . . . .	63

# DEPARTMENT OF LAW

## (YALE LAW SCHOOL)

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### GRADUATE STUDENTS

Nathaniel Wheeler Bishop, LL.B.	} Bridgeport, Conn.	Bridgeport
Yale University, 1889, Attorney at Law		
Edward Grant Buckland, LL.B.	} New Haven, Conn.	419 Temple st.
Yale University, 1889, Attorney at Law		
Saburo Koya, M.L.	} Tokyo, Japan	377 Crown st.
Yale University, 1890		
Albert McClellan Mathewson, LL.B.	} New Haven, Conn.	657 Orange st.
Yale University, 1884, Attorney at Law		
William Wallace Phelps, LL.B.	} Red Wing, Minn.	40 Elm st.
Univ. of Michigan, 1890, Attorney at Law		

GRADUATE STUDENTS, 5

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### SENIOR CLASS

George Washington Adams, Jr.	West Haven, Conn.	West Haven
George Woodburn Andrew	New Britain, Conn.	New Britain
George Leslie Armstrong, }	} New Haven, Conn.	56 Olive st.
Attorney at Law		
Orren William Bates, B.A. }	} Oneco, Conn.	468 State st.
Haverford College, 1884		
James Brown Bell	Glendale, O.	25 Wall st.
Charles Patrick Bohan	Pittston, Pa.	293 George st.
Joseph Patrick Brennan	Saratoga Springs, N. Y.	64 Whalley av
Stephen Brophy, }	} Toledo, O.	419 Temple st.
Attorney at Law		
Reuben Louis Cates	Maryville, Tenn.	299 George st.
Benjamin Hynes Charles, Jr., B.A. }	} Fulton, Mo.	47 York sq.
Westminster College, 1885		
Henry Graham Crocker	Sarnia, Ont., Canada	61 Prospect st.
Thomas Mitchel Cullinan, B.A. }	} Bridgeport, Conn.	Bridgeport
Yale University, 1889		
William Henry Davies	Los Angeles, Cal.	36 Lynwood st.
George Henry Ennis	Ansonia, Conn.	Ansonia
Fitz Daniel Ermentrout	Reading, Pa.	118 York st.

Edward James Gavegan, B.A. }	<i>New Haven, Conn.</i> 57 Prospect st.
Yale University, 1889 }	
Porter Beach Godard, B.A. }	<i>North Granby, Conn.</i> 47 York sq.
Yale University, 1889 }	
Frank Edwin Hawkes	<i>Oxford, Me.</i> 107 Temple st.
George Edwin Hill, B.A. }	<i>Stamford, Conn.</i> 29 Wall st.
Yale University, 1887 }	
John Aaron Hooper	<i>York, Pa.</i> 63 Prospect st.
Samuel Stone Hotchkiss	<i>Hartford, Conn.</i> 335 Orange st.
Benjamin Willard Jacobs, B.A. }	<i>Denver, Col.</i> 1161 Chapel st.
Yale University, 1889 }	
Paul Robinson Jarboe	<i>San Francisco, Cal.</i> 168 York st.
Percy Lincoln Johnson, PH.B. }	<i>Bridgeport, Conn.</i> Bridgeport
Wesleyan University, 1889 }	
Sukahidi Kabayama	<i>Tokyo, Japan</i> 67 Whalley av.
George Aaron Kellogg, B.A. }	<i>Vernon Center, Conn.</i>
Amherst College, 1889 }	148 Whalley av.
Albert James Kenyon	<i>Branford, Conn.</i> Branford
Robert Jacob Lewis	<i>York, Pa.</i> 63 Prospect st.
William Mitchell Lewis	<i>Racine, Wisc.</i> 1090 Chapel st.
John Wesley Lutz	<i>Lima, O.</i> 47 York sq.
Henry Hokixina Lyman	<i>Greenwood, S. Dak.</i> 61 Prospect st.
Hobert Hughes McCrary, B.A. }	<i>Richmond, Ky.</i> 1079 Chapel st.
Central University of Ky., 1888 }	
Gregory McPherson	<i>Washington, D. C.</i> 25 Wall st.
William Koontz Meyers, }	<i>Harrisburg, Pa.</i> 47 York sq.
Attorney at Law }	
Richard White Miller, B.A. }	<i>Richmond, Ky.</i> 1079 Chapel st.
Central University of Ky., 1888 }	
Robert Douglas Millholland	<i>Reading, Pa.</i> 33 Wall st.
John Richard Morgan, PH.B. }	<i>Indianapolis, Ind.</i> 61 Admiral st.
Butler University, 1889 }	
Frederick Eli Mygatt	<i>New Milford, Ct.</i> 335 Orange st.
Roger Samuel Newell	<i>Bristol, Conn.</i> 217 York st.
Burt Louis Newton	<i>Hartford, Conn.</i> 1076 Chapel st.
Allen Penfield Nichols	<i>Pomona, Cal.</i> Bridgeport
Wallace Olmstead	<i>Danbury, Conn.</i> 36 Wall st.
Frank Lee Owen, PH.B. }	<i>San Francisco, Cal.</i> 90 Wall st.
Yale University, 1889 }	
Israel Hyman Peres, B.A. }	<i>Memphis, Tenn.</i> 118 York st.
Yale University, 1889 }	
Charles Whittlesey Pickett	<i>New Haven, Conn.</i> 400 Temple st.
William Hollis Pond	<i>N. Attleboro, Mass.</i> 36 Lynwood st.
William Archibald Ringrose	<i>Soissons, France</i> 915 Grand av.
John Wilber Roby	<i>Delphos, O.</i> 20 Orange st.
Paul Russo	<i>New Haven, Conn.</i> 50 Washington st.

Frederick Andrew Scott, B.A. } Yale University, 1889	Terryville, Conn.	105 Park st.
James Robert Seeley, B.A. } Yale University, 1888	Bridgeport, Conn.	Bridgeport
James Madison Self, B.A. } College of Montana, 1889	Butte City, Mont.	310 Elm st.
Corwin Sheridan Shank	Canby, Oregon	121 Elm st.
Charles Hitchcock Sherrill, Jr., B.A. } Yale University, 1889	Washington, D. C.	90 High st.
William Harrison Stafford	Milwaukee, Wisc.	18 Trumbull st.
Albert Brodie Stone, B.A. } University of Michigan, 1889	Fayetteville, Ark.	40 Elm st.
Charles Edwin Thorn	Washington, D. C.	36 Wall st.
John Birney Tuttle	New Haven, Conn.	119 Greene st.
Susumu Uchida	Tokyo, Japan	404 Crown st.
Henry Mighels Verrill, PH.B. } Yale University, 1889	Portland, Me.	90 Wall st.

SENIORS, 60

## JUNIOR CLASS

William Pope Aiken, B.A. } Yale University, 1889	Rutland, Vt.	115 Elm st.
Frederic Sturges Allen, B.A. } Yale University, 1884	Danbury, Conn.	524 Howard av.
Roger Sherman Baldwin, B.A. } Yale University, 1890	New Haven, Conn.	44 Wall st.
Thomas Francis Bayard, Jr., B.A. } Yale University, 1890	Wilmington, Del.	90 High st.
Frank Stymets Bishop, B.A. } Yale University, 1890	New Haven, Conn.	61 Lyon st.
Herbert Morton Bishop, B.A. } Yale University, 1890	New Haven, Conn.	215 Church st.
Charles Wright Boltwood, B.A. } Yale University, 1890	New Haven, Conn.	77 Wall st.
Frank Eli Bradley, B.A. } Yale University, 1890	Quincy, Ill.	297 George st.
Francis Patrick Brett	Waterbury, Conn.	257 Church st.
Edward Burns	Ansonia, Conn.	Ansonia
John Frederic Carpenter	Putnam, Conn.	318 Orange st.
Michael Francis Conboy	New Haven, Conn.	80 Hill st.
John Francis Cuff	Danbury, Conn.	57 Prospect st.
Arthur Pomeroy Day, B.A. } Yale University, 1890	Hartford, Conn.	255 Crown st.

Harry Goodyear Day, PH.B. }	<i>Seymour, Conn.</i> 393 Temple st.
Yale University, 1890 }	
Joseph Jackson Dew	<i>Eutaw, Ala.</i> 928 Chapel st.
John Mansfield Douglass, Jr.	<i>Middletown, Conn.</i> Middletown
Joseph Edley England, B.A. }	<i>Little Rock, Ark.</i> 41 Court st.
Coll. of the Christian Brothers, Mo. }	
Samuel Herbert Fisher, B.A. }	<i>New Haven, Conn.</i>
Yale University, 1889 }	88 Trumbull st.
Morgan John Flaherty	<i>Ansonia, Conn.</i> Ansonia
Charles Cleveland Ford	<i>New Haven, Conn.</i> 371 Whalley av.
Mark Joseph Gretsck	<i>New Haven, Conn.</i> 123 George st.
Percy Hagerman, PH.B. }	<i>Colorado Springs, Col.</i>
Cornell University, 1890 }	137 College st.
Lewis Scofield Haslam, B.A. }	<i>Bridgeport, Conn.</i> Bridgeport
Yale University, 1890 }	
John James Healey	<i>Saratoga Springs, N. Y.</i> 64 Whalley av.
Herbert Augustus Hill, B.A. }	<i>Bridgeport, Conn.</i> Bridgeport
Wesleyan University, 1889 }	
John Francis Holohan	<i>Waterbury, Conn.</i> 423 Temple st.
Jesse William Johnson	<i>Brooklyn, N. Y.</i> 409 Temple st.
Richard Henry Johnson	<i>Boise City, Idaho</i> 99 Lake pl.
Howard Clifford Joyce	<i>Bridgeport, Conn.</i> Bridgeport
Franklin Leonard, Jr.	<i>Westfield, Mass.</i> 18 Orange st.
Thomas Lonergan, Jr.	<i>Chicago, Ill.</i> 393 Temple st.
Harry Wills McIntosh, PH.B. }	<i>Wilkinsburg, Pa.</i> 131 Howe st.
Western Univ. of Pa., 1890 }	
George Robert McKenna	<i>Westerly, R. I.</i> 1090 Chapel st.
William Adolphe McQuaid, B.A. }	<i>New Haven, Conn.</i> 181 Orchard st.
Yale University, 1889 }	
Augustine Francis Maher, B.A. }	<i>New Haven, Conn.</i> 203 East st.
Manhattan College, 1890 }	
James Bernard Martin	<i>New Haven, Conn.</i> 576 Grand st.
Solomon Cristy Mead, B.A. }	<i>Greenwich, Conn.</i> 1494 Chapel st.
Yale University, 1890 }	
Louis Jackson Morgan, PH.B. }	<i>Indianapolis, Ind.</i> 61 Admiral st.
Butler University, 1888 }	
William James Neary	<i>Naugatuck, Conn.</i> 928 Chapel st.
Robert Treat Platt, B.A. }	<i>Milford, Conn.</i> Milford
Yale University, 1889 }	
Linford Fenn Root	<i>Waterbury, Conn.</i> 679 Chapel st.
William Henry Smith, B.A. }	<i>New Haven, Conn.</i> 415 Orange st.
Yale University, 1890 }	
James Robert Spurgeon	<i>Richmond, Va.</i> 73 Eaton st.
George Peabody Steele	<i>Denver, Col.</i> 131 Howe st.
Francis Willcox Treadway, B.S. }	<i>Cleveland, O.</i> 116 College st.
Worcester Polytechnic Inst., 1890 }	

Horace Fletcher Walker, B.A. }	<i>Detroit, Mich.</i>	77 W.
Yale University, 1889 }		
Albert Foote Wells, B.A. }	<i>New Haven, Conn.</i>	26 Academy st.
Yale University, 1884 }		
Alfred Northam Wright, B.S. }	<i>Essex, Conn.</i>	117 Wooster st.
Wesleyan University, 1889 }		
William Morris Wylie	<i>New York City</i>	165 Orange st.
Samuel Albert York, Jr., B.A. }	<i>New Haven, Conn.</i>	139 Edwards st.
Yale University, 1890 }		
		JUNIORS, 51

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SUMMARY

GRADUATE STUDENTS,	.	.	.	.	.	5
SENIOR CLASS, .	.	.	.	.	.	60
JUNIOR CLASS, .	.	.	.	.	.	51
TOTAL,	.	.	.	.	.	<hr/> 116

## SUMMARY OF STUDENTS

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### DEPARTMENT OF PHILOSOPHY AND THE ARTS:

GRADUATE COURSES	-	-	-	104
YALE COLLEGE	-	-	-	832
SHEFFIELD SCIENTIFIC SCHOOL	-			379
ART SCHOOL	-	-	-	44
				<hr style="width: 50px; margin-left: 0;"/> 1359
YALE DIVINITY SCHOOL	-	-	-	139
YALE MEDICAL SCHOOL	-	-	-	63
YALE LAW SCHOOL	-	-	-	116
				<hr style="width: 50px; margin-left: 0;"/>
				1677
Deduct for names inserted twice	-			32
				<hr style="width: 50px; margin-left: 0;"/>
TOTAL	-	-	-	1645

## DEGREES CONFERRED IN 1890

### BACHELORS OF ARTS

Jacob Jay Abt	Clark Terry Durant
George L. Amerman	Charles Dussler
Edgar Ames	Wolcott Webster Ellsworth
Maximilian Baird	Arthur Espy
Roger Sherman Baldwin	John Dorrance Farnham
James Robertson Barbour	Horace Cheney Foote
Harry Jenkins Bardwell	Henry Thatcher Fowler
Thomas Francis Bayard, Jr.	George William Gedney
William Hale Beckford	George Hills Gilman
Frederick Bedell	Rodney Lawrence Glisan
Albert Bingley Bennett	William Sherman Greene
Frank Stymets Bishop	Elihu Marvin Griswold
Herbert Morton Bishop	Charles Humphrey Hamill
Charles Bemis Bliss	Bert Hanson
Charles Wright Boltwood	Reginald Fairfax Harrison
Charles Cranston Bovey	Robert Hartshorne
Frank Eli Bradley	Charles Houston Haskell
John Williams Brady	Lewis Scofield Haslam
Edward Brooks, Jr.	George Collier Hitchcock
Frank Terry Brooks	George Day Holmes
Winthrop Grant Bushnell	Roland Holt
George Henry Capen	Addison Hills Hough
Bert Francis Case	May Humphreys
Amasa Day Chaffee	George Arthur Hurd
Martin Clark	Otis King Hutchinson
Howard Dennis Collins	John DeCourcy Ireland
Arthur Willis Colton	Robert Livingston Ireland
Walter Joseph Connor	John Day Jackson
John White Corwith	Norman James
Howard Elmer Crall	Elliott Proctor Joslin
Robert Dillon Crane	Charles Poole Kellogg
Albert Cushing Crehore	Ryland Morris Kendrick, B.A. }
John Crosby	University of Rochester, 1889 }
George Henry Danforth	Chester Henry Keogh
Arthur Pomeroy Day	Yale Kneeland
Walter Alden DeCamp	Stephen Hurlburt Kohler
Andrew Glassell Dickinson, Jr.	William Alfred Korn
Clayton Chauncey Dorsey	George Newton Lawson
George Wells Dupee	Dudley Leavitt
Hamilton Hill Durand	Harriman Willis Lee



Charles Fitch Lester	Stuart Henry Rowe
Thomas Jay Lloyd	Henry Manning Sage
Walter Irenæus Lowe	Leonard Cutler Sanford
William Chittenden Lusk	David Scharps
Eugene Emile McCandliss	Henry Leo Scheuerman
Abram Garrison McClintock	Ernest Lynde Selden
William Appleton McConnel	Howard VanDoren Shaw
Donald McCormick	Ralph Martin Shaw
Ralph Augustine McDonnell	Thomas Bond Shaw
Thomas Edward McEvoy	Charles Alexander Sheldon
John Francis McGuire	Edward Minor Shelton
Henry Smith Mathewson	John Howard Sherwood
Solomon Cristy Mead	Wallace Delafield Simmons
Frank Sherman Meara	Charles Francis Small
Robert Hale Merriam	William Henry Smith
Knowlton Mixer	William Howard Smith
William Greenwood Morris	Percy Hamilton Stewart
Sidney Nelson Morse	John Henry Strong, B.A. }
Harry Loomis Munger	Univ. of Rochester, 1889 }
Edward Lyman Munson	John Francis Sullivan
Ashbel Barney Newell	James Willcox Thompson
George Nathan Newman	Ralph Thompson
Henry Opdyke	Albert Arthur Tilney
Willard Parker, Jr.	Evarts Tracy
Herbert Parsons	Henry Veeder
Richard Truman Percy	James Allen Warner
George Frederick Peter	George Swift Welch
Stowe Phelps	DeWitt Clinton West
Robert Eston Phyfe	William White, Jr.
Eugene Rockwell Pike	Albert Jason Willson
Nathan Todd Porter, Jr.	Joseph Lafon Winchell
Harry Elbridge Pratt	Lewis Bartholomew Woodruff
George Wadsworth Raynes	Henry Sterne Woodward
Charles Eliphalet Robbins	George Dallas Yeomans
Frederick William Robinson	Samuel Albert York, Jr.

## MASTERS OF ARTS

Edward Francis Ayres, B.A. }	Bernard Christian Steiner, B.A. }
Yale University, 1888 }	Yale University, 1888 }
Edward Willis Flagg, B.A. }	George Malcolm Stratton, B.A. }
Yale University, 1878 }	University of California, 1888 }
Charles Jenkins Foote, B.A. }	Dean Augustus Walker, B.A. }
Yale University, 1883 }	Yale University, 1884 }
Joseph Ernest Whitney, B.A. }	
Yale University, 1882 }	

## BACHELORS OF PHILOSOPHY

Philip Allen	Franklin Lyman Lawton
William Lucius Armstrong, B.A. }	Eugene Lentilhon
Yale University, 1889 }	Oliver Smith Lyford, Jr.
Cyrus Morgan Arnold	Herbert McBride
George Perkins Bissell, Jr.	Frank Dunlevy McCaulley
Theodore Whitney Blake	John Carter Machale
Wendell Phillips Brown	Henry Porter McKnight
Horace Ray Burritt	Frank Aloysius Maloney
William Harper Butler	Frederick James Mann
Robert Lockwood Casement	William Crosby Marshall
Horace Bushnell Cheney	James Muorhead Murdoch
John Platt Cheney	Paul Nash
Ralph Roger Clapp	Edgar Burr Northrup
Clarence Beverly Davison	Alfred Walling Ogden
Harry Goodyear Day	Charles Augustus Otis, Jr.
Nelson Lloyd Deming	Gaius Foster Paddock
Walter Dodge	Robert Ellsworth Peck
Harrison Irwin Drummond	John Frederick Pennell
Julian DuBois	John Conover Powell
Alexander William Evans	Frank Russell Rich
Ralph Schuyler Goodwin, Jr.	Charles Talbot Richmond
Neil Gray, Jr.	William Sterling Roby
Everett Gallup Griggs	Charles Francis Rogers
Charles Newton Gunn	Amos Leibensperger Schaeffer, B.A. }
Lawrence Heyworth	Franklin and Marshall College, 1889 }
Theodore Dudley Irwin	• Ernest Elisha Severy
Adrian Muller Isham	Chester Burdell Shepard
Walter Tracy Ives	George Jarvis Spencer
William Francis Judson	Walter Tuttle Spencer
Elbridge Byron Keith	Charles Bailey Spruce
William Matthew Kinna	John Clayton Tracy
Charles Louis Kirschner	Albert Milford Turner
Harvey Merrill Lawson	Henry Lord Wheeler

## CIVIL ENGINEERS

Frank Elwood Brown, PH.B. }	Morgan Walcott, PH.B. }
Yale University, 1876 }	Yale University, 1888 }

## MECHANICAL ENGINEER

James Alward Seymour, PH.B. Yale University, 1885

## DOCTORS OF PHILOSOPHY

Edwin Linton, B.A. }	George Hawkins Patterson, B.A. }
Wash. and Jeff. Coll., 1881 }	Ohio Wesleyan University, 1888 }
Frank Gardner Moore, B.A. }	Eben Charles Sage, M.A. }
Yale University, 1886 }	Shurtleff College, 1881 }
Frederick Wightman Moore, B.A. }	George Scott, M.A. }
Yale University, 1886 }	Alfred University, 1880 }
Hanns Oertel, M.A. }	Elias Hershey Sneath, B.A. }
Yale University, 1888 }	Lebanon Valley College, 1881 }
Herbert Cushing Tolman, B.A. }	
Yale University, 1888 }	

## BACHELORS OF DIVINITY

Edward Benjamin Bagby, B.A. }	Julius Adolph Meckel }
Kentucky University, 1887 }	James Wilber Moulton, B.A. }
Lucius Olmsted Baird, B.A. }	Bates College, 1887 }
Yale University, 1885 }	John Thomas Nichols, B.A. }
Frank Clyde Baker, B.A. }	Harvard University, 1884 }
Oberlin College, 1886 }	Stephen Beasley Linnard Penrose, }
Gerald Hamilton Beard, B.A. }	B.A. Williams College, 1885 }
Yale University, 1887 }	Perry Oliver Powell, B.A. }
Edwin Victor Bigelow, B.A. }	Kentucky University, 1887 }
University of Washington, 1887 }	John Harrison Reid }
Jesse Levi Bright }	Edward Tallmadge Root, B.A. }
Daniel Emery Burtner, B.A. }	Yale University, 1887 }
Lebanon Valley College, 1886 }	Theophilus Huntington Root, B.A. }
Robert Coit Chapin, B.A. }	Harvard University, 1885 }
Beloit College, 1885 }	Claudius Milton Severance, B.A. }
Edward Mortimer Chapman, B.A. }	Middlebury College, 1883 }
Yale University, 1884 }	Elmer Ellsworth Smiley, B.A. }
Charles Dow Crawford, B.A. }	Syracuse University, 1885 }
Drury College, 1887 }	Edward Lincoln Smith, B.A. }
Arthur Hill Daniels, B.A. }	Yale University, 1886 }
Olivet College, 1887 }	Joseph Jansen Spencer, B.A. }
William Davies }	Otterbein University, 1884 }
Hugh Latimer Elderdice, B.A. }	William Austin Trow, B.A. }
Western Maryland College, 1882 }	Amherst College, 1886 }
Edward Torrey Ford }	Edwin Alonzo Warfield, B.A. }
Lincoln Archer Holp }	Western Maryland College, 1882 }
Edward Payson Holton, B.A. }	Eugene Carroll Webster, B.A. }
Amherst College, 1887 }	Harvard University, 1887 }
George Ellsworth Hooker, B.A. }	Morrison Weimer, B.A. }
Amherst College, 1883 }	Lebanon Valley College, 1887 }
Herbert Bacon Hutchins, B.A. }	Schuyler Sampson White, B.A. }
Harvard University, 1886 }	Harvard University, 1884 }
Frederic William Macallum, B.A. }	John Sheridan Zelig, B.A. }
McGill University, 1888 }	Williams College, 1887 }

**DOCTORS OF MEDICINE**

d Robinson Baldwin	Harry Burr Ferris, B.A. }
n Pitt Baldwin, B.A. }	Yale University, 1887 }
s University, 1888	George Washington Lawrence
n Patrick John Burke	Charles Alling Tuttle, PH.B. }
nin Austin Cheney, B.A. }	Yale University, 1888 }
s University, 1888	

**BACHELORS OF LAWS**

m Andrew Andrew	Orland Sidney Isbell, B.A. }
Baker	Yale University, 1888 }
Benetto, M.A. }	Louis Jacobs
s University, 1889 }	John Willard Keerans
iel Wheeler Bishop	Edward Everett Longan, LITT. M. }
Patrick Bree	Missouri State University, 1889 }
s Walter Bristol	Robert Clark Morris
n Henry Bristol	Porter Cooper Moulton
Frank Bugbee	Keiichi Nosawa
s Lamar Camp, B.L. }	William Joseph O'Sullivan, M.D. }
versity of Texas, 1889 }	Yale University, 1889 }
lexander Campbell, PH.B. }	George Madison Pavey, B.A. }
ke University	Yale University, 1888 }
d Adams Clark	Robert Seney Pelletreau
n Leland Dows, Jr.	Lyman Ormond Perley, B.S. }
s Gavin Duffy	Northwestern University, 1887 }
Bassial Eppstein	Philip Pond, 2d, B.A. }
s Barber Fowler, B.A. }	Yale University, 1888 }
s University, 1888	Henry Strunz, B.A. }
Francis Frear, B.A. }	Yale University, 1888
s University, 1885 }	Edgar Montgomery Thacker
w Miller Freas	Jeremiah Dean Toomey
Arthur Gilbert	Francis Bacon Trowbridge, B.A. }
Hewitt Hinckley	Yale University, 1887 }
m Peter Hofferbert	Winthrop Turney, B.A. }
eland Howard	Yale University, 1887 }
Wells Hubbard, B.A. }	Leonard Truman Waldron
s University, 1888	Thomas Clifford Waterous
Frank Lincoln Woodward, B.A. }	
Yale University, 1888	

**MASTERS OF LAWS**

s Emerson Beers, LL.B. }	Saburo Koya, LL.B. }
s University, 1889	Univ. of Tokyo, 1889 }

## DOCTORS OF CIVIL LAW

Kojiro Matsugata, LL.B. }	Soichi Tsuchiya, LL.B. }
Yale University, 1888 }	Yale University, 1888 }
George Dutton Watrous, LL.B. }	
Yale University, 1883 }	

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## HONORARY DEGREES:

## DOCTORS OF DIVINITY

Rev. Adolphus Julius Frederick Behrends, B.A. }	
Denison University, 1862 }	
Rev. Ausustus Hopkins Strong, B.A., Yale University, 1857	

## DOCTORS OF LAW

Edward Coke Billings, B.A. }	Francis Delafield, B.A. }
Yale University, 1853 }	Yale University, 1860 }
William Frierson Cooper, B.A. }	Rev. Henry Martyn Dexter, B.A. }
Yale University, 1838 }	Yale University, 1840 }
William Walter Phelps, B.A. }	
Yale University, 1860 }	

## DOCTOR OF MUSIC

John Knowles Paine, M.A., Harvard University, 1869

## MASTERS OF ARTS

Stephen Smith Burt, M.D., Coll. }	Frederic Byron Hall
Physicians and Surgeons, 1875 }	John Kean
Loomis Joseph Campbell, B.A. }	William Edgar Simonds, LL.B. }
Hamilton College, 1856 }	Yale University, 1866 }
Joseph Benjamin Dimmick	Elihu Thomson
Walter Edwards, B.A. }	Rev. Charles Mellen Tyler, B.A. }
Williams College, 1855 }	Yale University, 1855 }
Dorsey Gardner	

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## APPOINTMENTS FOR COMMENCEMENT,

YALE COLLEGE, JUNE 25, 1890

## ORATIONS

CHARLES FRANCIS SMALL  
 GEORGE L. AMERMAN  
 FREDERICK BEDELL

[The names in the following groups are in alphabetical order.]

Roger Sherman Baldwin  
Frank Terry Brooks  
Walter Alden DeCamp  
Henry Thatcher Fowler  
George William Gedney  
Charles Humphrey Hamill  
Lewis Scofield Haslam

Elliott Proctor Joslin  
Yale Kneeland  
William Appleton McConnell  
Frank Sherman Meara  
Sidney Nelson Morse  
Harry Loomis Munger  
Nathan Todd Porter, Jr.

William Hale Beckford  
Charles Bemis Bliss  
John Crosby  
John Day Jackson  
Charles Fitch Lester  
William Chittenden Lusk

Solomon Cristy Mead  
George Nathan Newman  
Henry Opdyke  
Stuart Henry Rowe  
Edward Minot Shelton

#### DISSERTATIONS

Albert Bingley Bennett  
Edward Brooks, Jr.  
John White Corwith  
Hamilton Hill Durand  
Wolcott Webster Ellsworth  
Arthur Espy

Donald McCormick  
Thomas Edward McEvoy  
Herbert Parsons  
David Scharps  
John Howard Sherwood  
Henry Sterne Woodward

#### DISPUTES

Harry Jenkins Bardwell  
Herbert Morton Bishop  
Charles Cranston Bovey  
George Henry Capen  
Amasa Day Chaffee  
Howard Elmer Crall  
William Sherman Greene  
Bert Hanson  
George Day Holmes  
Thomas Jay Lloyd

Walter Irenæus Lowe  
Ralph Augustine McDonnell  
John Francis McGuire  
Henry Smith Mathewson  
Charles Eliphalet Robbins  
Henry Leo Scheuerman  
Howard VanDoren Shaw  
Ralph Martin Shaw  
Wallace Delafield Simmons  
James Willcox Thompson

Jacob Jay Abt  
Maximilian Baird  
Frank Eli Bradley  
William Thurston Brown  
Howard Dennis Collins  
Arthur Willis Colton  
Albert Cushing Crehore  
Arthur Pomeroy Day  
Clayton Chauncey Dorsey  
Clark Terry Durant  
Charles Dussler  
John Dorrance Farnham

Reginald Fairfax Harrison  
Roland Holt  
May Humphreys  
George Arthur Hurd  
Knowlton Mixer  
William Greenwood Morris  
Robert Eston Phyfe  
Henry Manning Sage  
Albert Arthur Tilney  
Albert Jason Willson  
Lewis Bartholomew Woodruff

## COLLOQUIES

Frank Stymets Bishop  
 Bert Francis Case  
 Rodney Lawrence Glisan  
 Charles Houston Haskell  
 Addison Hills Hough  
 Richard Truman Percy

Harry Elbridge Pratt  
 George Wadsworth Raynes  
 Charles Alexander Sheldon  
 William Howard Smith  
 Henry Veeder

Edgar Ames  
 James Robertson Barbour  
 Charles Wright Boltwood  
 John Williams Brady  
 Martin Clark  
 George Hills Gilman  
 Elihu Marvin Griswold

Robert Hale Merriam  
 George Frederick Peter  
 Stowe Phelps  
 Frederick William Robinson  
 Percy Hamilton Stewart  
 William White, Jr.  
 Samuel Albert York, Jr.

## SPECIAL HONORS

## TWO-YEAR HONORS

*In Political Science, History, Law :*

John Day Jackson  
 Henry Leo Scheuerman

*In Ancient Languages :*

George L. Amerman  
 Charles Bemis Bliss  
 George Nathan Newman  
 Stuart Henry Rowe

*In Natural and Physical Science :*

Frederick Bedell  
 Frank Terry Brooks  
 Elliott Proctor Joslin  
 William Chittenden Lusk

*In Mathematics :*

Albert Cushing Crehore

## ONE-YEAR HONORS

*In Political Science, History, Law :*

Walter Alden DeCamp  
 Arthur Espy  
 Charles Humphrey Hamill  
 Lewis Scofield Haslam  
 Walter Irenæus Lowe  
 Sidney Nelson Morse  
 Henry Opdyke  
 David Scharps  
 Ralph Martin Shaw  
 William White, Jr.  
 Henry Sterne Woodward

*In Philosophy :*

Thomas Jay Lloyd  
 John Henry Strong

*In Modern Languages :*

John White Corwith  
 John Day Jackson

*In English :*

Arthur Willis Colton  
 Roland Holt

*In Natural and Physical Science :*

George L. Amerman

## APPOINTMENTS FOR JUNIOR EXHIBITION,

YALE COLLEGE, MARCH 27, 1890

## PHILOSOPHICAL ORATIONS

GROSVENOR ATTERBURY  
 WILLIAM TENNEY BARTLEY  
 JOSEPH BOWDEN, JR.  
 CURTISS CLARK BUSHNELL  
 JOHN JOUGHIN COX  
 NATHAN GLICKSMAN  
 HIPPOLYTE WASHINGTON GRUENER  
 HOWARD THAYER KINGSBURY  
 LAFAYETTE BENEDICT MENDEL  
 RAY BURDICK SMITH  
 WILLIAM NEVIN THATCHER  
 CLIFFORD GRAY TWOMBLY

## ORATIONS

Cecil Kittredge Bancroft	Harry Leroy Pangborn
Frank Ayer Dillingham	Samuel Carter Shaw
Edward Payson Drew	Francis Louis Slade
Joe Garner Estill	Herbert Knox Smith
Charles Prentiss Howland	Harry Hallam Tweedy
Edward Nathaniel Loomis	

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Charles Marshall Brown	Raymond Hilliard Gage
Francis Theodore Brown	William Phillips Graves
Frank Crawford	Robert Gardner McClung
Harvey Williams Cushing	James Richardson
Edgar William Danner	Erastus Dean Ryder
Lyle Alexander Dickey	Edward Allen Thurber
Charles Russell Ely	Luther Henry Tucker, Jr.

## DISSERTATIONS

George Irving Adams	William Josiah Leverett
Reginald Foster	Wallace Simon Moyle
Theodore Stuart Hart	Winthrop Sargent Gilman Noyes
Edward Learned Kernochan	

## DISPUTES

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Frank Sanford Blair	Joseph Eugene Hedges
James Wallace Broatch	Herbert Wolcott Holcomb
Starling Winston Childs	Richard Bartholomew Moriarty
Henry Dunnell	John Franklin Plummer, Jr.
Charles Howard Hall	Egerton Swartwout
Lane Schofield Hart	George Sherman Talcott



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 Ernest Hickok Baldwin  
 John Henry Buck  
 Charles Gibbs Carter  
 William Russell Cone Corson  
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 Charles Samuel Ingham  
 Howard LaField

Theodore Nelson Lillagore  
 John Frederic McBean  
 William Frederick Poole, Jr.  
 Clement Grubb Smith  
 John Quillin Tilson  
 Frederick Collin Walcott  
 George Stewart Walton  
 Henry Crofut White

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 Matthias Charles Arnot  
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 Henry Murray Dater  
 Ashbel Green, Jr.  
 Paul Ecoff Greer  
 Lewis Carroll Hall  
 George Henry Hefflon  
 George Walter Hodges  
 Louis Lawton Hopkins

Sherman Skinner Jewett  
 Vertner Kenerson  
 Charles Capron Marsh  
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 Allan Gold Robinson  
 Francis Williams Sacket  
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 Samuel Clifton Thompson  
 John Barnes Townsend  
 Leonard Eugene Wales, Jr.  
 Henry Lane Williams  
 Glen Wright

Alfred Lawrence Aiken  
 Gurdon Franklin Bailey  
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 Walter Alden Barrows  
 David Lane Billings  
 John Matthews Brenner  
 George Stephenson Brewster  
 Charles Parsons Cooley  
 Clarence Seward Davis  
 Harry Tristram Ferris  
 Russell Kennedy Forsyth  
 Franklin Underwood Gregory  
 Perry Williams Harvey  
 Joseph Rogers Herod  
 Edward Franklin Horr

Hampton Pierson Howell  
 Leland Ingersoll  
 Stuart Dodge Jessup  
 Lewis Taylor Knox  
 Joseph Potts Lloyd, Jr.  
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 Samuel Wylie Black Moorhead  
 Frank Richard Oastler  
 Charles Orrin Penfield  
 Albert Merriman Reed  
 Adelbert Lee Reynolds  
 William Drown Rorer  
 Arthur Benedict Russell  
 Hanford Smith Weed  
 Frederick Harrison Williams

UNDERGRADUATE SCHOLARS OF THE HOUSE, YALE  
 COLLEGE, FOR 1890-91:

BRISTED Scholar, Class of 1891—CURTIS CLARK BUSHNELL.  
 WOOLSEY Scholar, Class of 1891—JOSEPH BOWDEN, Jr.  
 SCOTT HURTT Scholar, Class of 1891—JOE GARNER ESTILL.  
 WOOLSEY Scholar, Class of 1892—JAMES W. D. INGERSOLL.  
 SCOTT HURTT Scholar, Class of 1892—JAMES W. D. INGERSOLL.  
 WOOLSEY Scholar, Class of 1893—WINTHROP E. DWIGHT.  
 HURLBUT Scholar, Class of 1893—WILLIAM BEGG.  
 THIRD FRESHMAN Scholar, Class of 1893—ISIDORE WACHSMAN.

## UNIVERSITY PRIZES, AWARDED IN JUNE, 1890:

JOHN A. PORTER Prize—Gerald H. Beard, B.A., of the Senior Class in the Divinity School; with special commendation of George S. Goodspeed, B.A., of the Graduate Department.

Committee of Award: Rev. Professor James M. Hoppin, D.D., of New Haven;

Rev. Roderick Terry, D.D., of New York City;

Mr. Edward Tompkins McLaughlin, of New Haven.

COEDEN CLUB Medal, Class of 1890—Charles A. Sheldon, of the Academical Department; with honorable mention of George C. Hitchcock, Henry L. Scheuerman, and Ralph M. Shaw, of the same Department.

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PRIZES AWARDED IN THE ACADEMICAL DEPARTMENT  
(YALE COLLEGE), 1889-90:

DEFOREST Prize Medal, Class of 1890—John Crosby.

TOWNSEND Premiums, Class of 1890—Arthur W. Colton, Charles H. Hamill, John D. Jackson, Henry Opdyke, Henry M. Sage.

DEFOREST MATHEMATICAL Prizes—Senior Mathematical Prizes, 1st Prize, Albert C. Crehore; 2d Prizes, Frederick Bedell, Charles B. Bliss. Class of 1891—1st Prize, Joseph Bowden, Jr.; 2d Prize, Lyle A. Dickey. Class of 1892—1st Prize, Matthew A. Reynolds; 2d Prize, Bernard M. Allen; 3d Prizes, Charles J. Bartlett and Clarence C. Wilson. Class of 1893—1st Prize, Winthrop E. Dwight; 2d Prizes, William Begg and Charles J. Fay; 3d Prizes, Wendell M. Strong and John B. Thomas.

LUCIUS F. ROBINSON Latin Prizes, for Classes of 1890 and 1891—1st Prize, Wm. T. Bartley, Class of 1891; 2d Prize, James Richardson, Class of 1891; 3d Prize, Charles F. Lester, Class of 1890. For Class of 1892—1st Prize, Alfred B. Palmer; 2d Prize, James W. D. Ingersoll; 3d Prize, Bernard M. Allen.

SCOTT Prizes in German, Class of 1890—Divided between Roger S. Baldwin and Arthur W. Colton. In French, Class of 1891—Clifford G. Twombly.

WINTHROP Prizes, Class of 1891—1st Prize, Curtis C. Bushnell; 2d Prize, William T. Bartley.

HENRY JAMES TENEYCK Prizes (for the Junior Exhibition), Class of 1891—1st Prize, Francis T. Brown; 2d Prizes, John J. Cox, Howard T. Kingsbury, Edward N. Loomis, Herbert K. Smith, Ray B. Smith, William N. Thatcher, Luther H. Tucker, Jr.

COMPOSITION Prizes, Class of 1892—1st Prize, Edward Boltwood; 2d Prizes, Arthur S. Brackett, Elisha H. Cooper, Alfred B. Palmer,

John K. Tibbits; 3d Prizes, Bernard M. Allen, Alfred B. Chace, Clive H. Day, James W. D. Ingersoll, Thornwell Mullally, Frank J. Price.

ELOCUTION Prizes, Class of 1892—In Reading, Frank J. Price; in Declamation, Paul R. Clark, Benjamin L. Crosby, James W. Husted, Jr.

BERKELEY Premiums, Class of 1893—1st Grade, Franklin J. Abbe, Charles W. Bosworth, Winthrop E. Dwight, Richard T. Holbrook, Harry S. Vaile, Arthur L. Wheeler; 2d Grade, William Begg, Thomas H. Breeze, Charles J. Fay, Rufus M. Gibbs, James E. Grafton, John D. Warnock.

HUGH CHAMBERLAIN Greek Prize, Class of 1894—Divided between Henry S. Dawson, Jr., from the New Haven High School, and Theodore Eaton, from Phillips Academy, Andover, Mass.; with honorable mention of Herbert H. Kellogg, from the New Haven High School, Charles G. Osgood, Jr., from Phillips Academy, Andover, and Howard F. Smith, from the Hartford, Conn., High School.

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#### PRIZES AWARDED IN THE SHEFFIELD SCIENTIFIC SCHOOL, JUNE, 1890:

Class of 1890:

FOR EXCELLENCE IN CIVIL ENGINEERING—the Prize divided between Frank R. Rich and Albert M. Turner, with honorable mention of Charles N. Gunn.

FOR EXCELLENCE IN MECHANICAL ENGINEERING—the Prize divided between Charles L. Kirschner and William C. Marshall.

THE BELKNAP NATURAL HISTORY PRIZE—Alexander W. Evans, with honorable mention of Walter Dodge and Harvey M. Lawson.

Class of 1891:

FOR EXCELLENCE IN THE MATHEMATICS OF JUNIOR YEAR—George P. Starkweather, with honorable mention of DeLancey A. Cameron and Noyes D. Clark.

FOR EXCELLENCE IN GERMAN—George P. Starkweather, with honorable mention of Edward O. Sutton.

Class of 1892:

FOR EXCELLENCE IN ALL THE STUDIES OF FRESHMAN YEAR—Samuel A. Harsh, with honorable mention of Francis M. Adams, Sherman H. Bouton, and Claude Gignoux.

FOR EXCELLENCE IN GERMAN—the Prize divided between Samuel A. Harsh and Claude Gignoux, with honorable mention of Francis M. Adams, George E. Nettleton, and Paul Sterling.

FOR EXCELLENCE IN CHEMISTRY—the Prize divided between Francis M. Adams, Claude Gignoux, Samuel A. Harsh, and George E. Nettleton.

FOR EXCELLENCE IN PHYSICS—Bartram B. Boltwood, with honorable mention of Samuel A. Harsh and Charles B. Chandler.

FOR EXCELLENCE IN MATHEMATICS—the Prize awarded to Samuel A. Harsh, with honorable mention of Francis M. Adams, Sherman H. Bouton, Claude Gignoux, and Theophilus Nelson.

FOR EXCELLENCE IN MECHANICAL DRAWING—the Prize awarded to Waldo C. Briggs, with honorable mention of William A. Baldwin, Samuel Fray, Josiah Harmar, and Theophilus Nelson.

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PRIZES AWARDED IN THE MEDICAL SCHOOL, JUNE, 1890:

CAMPBELL GOLD MEDAL—William P. Baldwin, B.A., with honorable mention of Harry B. Ferris, B.A.

KEESE PRIZE—Charles A. Tuttle, PH.B., with honorable mention of Edward R. Baldwin.

OBSTETRICAL PRIZE—Harry B. Ferris, B.A.

DEGREE OF M.D. *cum laude*—William P. Baldwin, B.A.; Harry B. Ferris, B.A.

---

PRIZES AWARDED IN THE LAW SCHOOL, JUNE, 1890:

TOWNSEND PRIZE, Class of 1890—John Bennetto, M.A.

JEWELL PRIZE, Class of 1890—Walter F. Frear, B.A.

O. S. SEYMOUR PRIZE, Class of 1890—Charles G. Duffy.

BETTS PRIZE, Class of 1891—Israel L. Peres, B.A.

HONORS:

SENIOR CLASS:

Degree of LL.B., *magna cum laude*

John Bennetto, M.A., Walter F. Frear, B.A., Orland S. Isbell, B.A.,

Lyman O. Perley, B.S.

Degree of LL.B., *cum laude*

George B. Fowler, B.A., Frank W. Hubbard, B.A., Frank L. Woodward, B.A.

JUNIOR CLASS:

Benjamin W. Jacobs, B.A., George A. Kellogg, B.A., Mayne R. Longstreth, B.A., Israel L. Peres, B.A., Frederick A. Scott, B.A., Susumu Uchida.

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PRIZE AWARDED IN THE ART SCHOOL, JUNE, 1890:

ETHEL CHILDE WALKER PRIZE—Constance H. Blake.

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